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ABSTRACT

Since the mid-1980s, tremendous attention has been focused on what students should know and be able to do as a result of K-12 education. An overview of U.S. citizens' opinions of what standards should be emphasized in the K-12 curriculum is presented in this report. The findings are based on responses by 2,553 adults who rated whether "definitely," "probably," "probably not," or "definitely not" a standard should be included in the curriculum. The results suggest that although Americans believe that most subjects traditionally viewed as components of the U.S. public-education system have a place in the curriculum, they also believe that these areas should not be equally emphasized. The survey can help guide curriculum developers by suggesting those content areas that are deemed most needed, as well as reveal standards that might be selected within content areas. The report provides guidance in creating a comprehensive curriculum given the constraints of "available" instructional time in a typical K-12 education system. The findings also relate to the differing opinions of various subgroups that can be used to make minor adjustments in the selection of standards based on the general education level, age, and income level of the local community in question. Sixteen appendices provide overviews of the data. (RJM)

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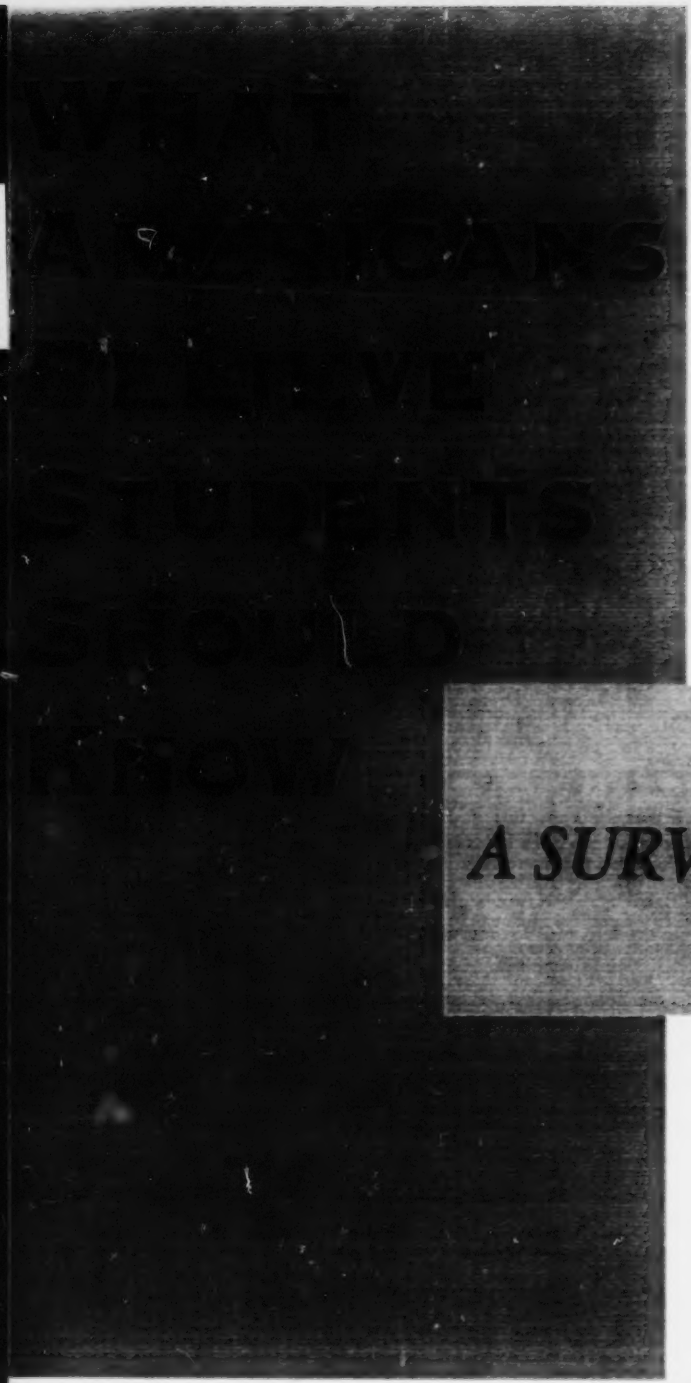

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Robert J. Marzano
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November 1998

McREL
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CHAPTER 1

THE NEED FOR STANDARDS IN THE STANDARDS MOVEMENT

Since the mid-1980s, U.S. education has seen tremendous attention placed on the identification of what students should know and be able to do as a result of K–12 education. These efforts have manifested in the form of "standards" documents for various subject areas. The first of these documents produced by national subject-matter organizations was *Curriculum and Evaluation Standards for School Mathematics*, published by the National Council of Teachers of Mathematics (NCTM) in 1989. It had a profound impact on how educators viewed the teaching of mathematics. As *Education Week* reporter Karen Diegmueller (1995) explains, the NCTM standards "redefined the study of math so that topics and concepts would be introduced at an earlier age, and students would view math as a relevant problem-solving discipline rather than as a set of obscure formulas to be memorized" (p. 5). The perceived quality and success of this document coincided with efforts on the part of the federal government to increase the academic achievement of U.S. students. Specifically, one of the outcomes of the 1989 education summit in Charlottesville, Virginia, attended by President Bush and the nation's governors, was the identification of six broad goals for education to be reached by the year 2000.[1] These goals and their rationale were published under the title *The National Education Goals Report: Building a Nation of Learners* (National Education Goals Panel [NEGP], 1991). Two of those goals (3 and 4) related specifically to academic achievement:

Goal 3: By the year 2000, American students will leave grades 4, 8, and 12 having demonstrated competency in challenging subject matter, including English, mathematics, science, history, and geography; and every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment in our modern economy.

Goal 4: By the year 2000, U.S. students will be first in the world in science and mathematics achievement.

Funding soon became available for a variety of subject-matter professional organizations to identify the important information and skills within their content areas. By 1996, standards documents had been developed and published within at least twelve subject areas. These subject areas and related documents are listed in Table 1.1 (p.2).

The documents listed in Table 1.1 are the result of efforts by groups that were either funded by the U.S. Department of Education or identified themselves as representing the national consensus in their subject areas. Thus, collectively, these documents could be said to articulate the "official" version of standards for the K–12 subject areas.

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[1] The initial set of goals was expanded to eight goals in 1994.

Table 1.1
Official Standards Documents

Subject Area	Documents
Science	National Research Council. (1996). *National Science Education Standards*. Washington, DC: National Academy Press.
Foreign Language	National Standards in Foreign Language Education Project. (1996). *Standards for Foreign Language Learning: Preparing for the 21st Century*. Lawrence, KS: Allen Press.
English Language Arts	National Council of Teachers of English and the International Reading Association. (1996). *Standards for the English Language Arts*. Urbana, IL: National Council of Teachers of English.
History	National Center for History in the Schools. (1994). *National Standards for History for Grades K–4: Expanding Children's World in Time and Space*. Los Angeles: Author. National Center for History in the Schools. (1994). *National Standards for United States History: Exploring the American Experience*. Los Angeles: Author. National Center for History in the Schools. (1994). *National Standards for World History: Exploring Paths to the Present*. Los Angeles: Author. National Center for History in the Schools. (1996). *National Standards for History: Basic Edition*. Los Angeles: Author.
Arts	Consortium of National Arts Education Associations. (1994). *National Standards for Arts Education: What Every Young American Should Know and Be Able to Do in the Arts*. Reston, VA: Music Educators National Conference.
Health	Joint Committee on National Health Education Standards. (1995). *National Health Education Standards: Achieving Health Literacy*. Reston, VA: Association for the Advancement of Health Education.
Civics	Center for Civic Education. (1994). *National Standards for Civics and Government*. Calabasas, CA: Author.
Economics	National Council on Economic Education. (1996). *Voluntary National Content Standards in Economics*. New York: Author.
Geography	Geography Education Standards Project. (1994). *Geography for Life: National Geography Standards*. Washington, DC: National Geographic Research and Exploration.
Physical Education	National Association for Sport and Physical Education. (1995). *Moving Into the Future: National Standards for Physical Education: A Guide to Content and Assessment*. St. Louis: Mosby.
Mathematics	National Council of Teachers of Mathematics. (1989). *Curriculum and Evaluation Standards for School Mathematics*. Reston, VA: Author.
Social Studies	National Council for the Social Studies. (1994). *Expectations of Excellence: Curriculum Standards for Social Studies*. Washington, DC: Author.

Problems with the National Documents

Unfortunately, these documents, taken as a group, present a number of challenges to educators who attempt to use standards as the cornerstone of their system redesign or reform initiatives: (1)

differing approaches to standards development, (2) multiple perspectives on standards within a subject area, and (3) too much content within and across content areas. (For a detailed discussion of the problems surrounding the national standards documents see Marzano & Kendall, 1996, and Kendall & Marzano, 1997.)

Differing Development Approaches

It is immediately apparent when one consults the documents listed in Table 1.1 that vastly different approaches were used to define standards and their associated elements. This is most evident in the varying levels of generality at which the various documents describe standards. For example, the standards in *National Standards for Arts Education* (Consortium of National Arts Education Associations, 1994) are described in very general terms, for example:

- Understands the arts in relation to history and culture

In contrast, the standards in *National Standards for United States History: Exploring the American Experience* (National Center for History in Schools [NCHS], 1994) are described in relatively specific terms, for example:

- Students should understand the causes of the Civil War

The example from the *National Standards for United States History* obviously is more specific than that from the *National Standards for Arts Education*. In addition, the history document provides more detailed information for each of its standards than does the arts document. These and other differences in approaches to articulating standards have made it very difficult for educators to gain a comprehensive view of standards across subject areas. In other words, because of the idiosyncratic approaches to articulating standards in various subject-matter documents, it is very difficult for educational practitioners to obtain an overall sense of the nature and function of standards across all content areas.

Multiple Documents in a Content Area

A second problem that has plagued the national standards movement involves multiple documents for some subject areas. Although it is safe to say that the documents listed in Table 1.1 are generally considered the "official" accountings of the essential knowledge within their respective areas, a number of other documents also address the issue of what students should know and be able to do as a result of K–12 schooling. For example, in the area of mathematics, *Curriculum and Evaluation Standards for School Mathematics*, published by NCTM (1989), is certainly unquestioned as the official standards document. However, mathematics standards and benchmarks also are articulated in the following documents:

- Project 2061, American Association for the Advancement of Science. (1993). *Benchmarks for Science Literacy*. New York: Oxford University Press.

- National Assessment of Educational Progress. (n.d.). *Mathematics Framework for the 1996 National Assessment of Educational Progress*. Washington, DC: Author.

- New Standards. (1997). *Performance Standards: English Language Arts, Mathematics, Science, Applied Learning, Volume 1, Elementary School*. Washington, DC: National Center on Education and the Economy.

- New Standards. (1997). *Performance Standards: English Language Arts, Mathematics, Science, Applied Learning, Volume 2, Middle School*. Washington, DC: National Center on Education and the Economy.

- New Standards. (1997). *Performance Standards: English Language Arts, Mathematics, Science, Applied Learning, Volume 3, High School*. Washington, DC: National Center on Education and the Economy.

- International Baccalaureate. (1993). *Group 5 Mathematics Guide* (Edition 1.2). Geneva, Switzerland: Author.

- International Baccalaureate. (1995). *Middle Years Programme: Mathematics* (Edition 1.1).Geneva, Switzerland: Author.

A similar situation exists in the subject area of science. At least three documents have gained recognition as publications that provide worthwhile descriptions of what students should know and be able to do in science:

- Research Council. (1996). *National Science Education Standards*. Washington, DC: National Academy Press.

- Project 2061, American Association for the Advancement of Science. (1993). *Benchmarks for Science Literacy*. New York: Oxford University Press.

- Pearsall, M. K. (Ed). (1993). *Scope, Sequence, and Coordination of Secondary School Science. Vol. 1. The Content Core: A Guide for Curriculum Designers*. Washington, DC: National Science Teachers Association.

In addition, twelve other documents offer useful support for developing standards and benchmarks in science. (For a list of these documents, see Kendall & Marzano, 1997, p. 67).

In summary, a school or district wishing to review *all* relevant documents that articulate essential subject-matter content would have to go beyond those listed in Table 1.1. To illustrate, McREL researchers have determined that one would need to review 12 documents in history, 8 documents in mathematics, and 32 documents in English language arts to gain a comprehensive perspective in those subject areas.

Too Much Content

In the early stages of the effort to create national standards documents, it was assumed that, considered as a group, the standards would present a manageable, concise listing of what students should know and be able to do in the various subject areas. However, as the standards documents were completed and made available to the public, it soon became clear that the composite list of information and skills would be overwhelming to the practitioner. Criticisms of the lack of conciseness soon arose. For example, in 1995, Chester Finn, Jr., then Assistant Secretary of Education, noted that "the professional associations, without exception, lacked discipline. They all demonstrated gluttonous and imperialistic tendencies" (in Diegmueller, 1995, p. 6). At the time of Finn's statement in 1995, the standards documents, taken together, weighed about 14 pounds, stood six inches tall, and contained over 2,000 pages. Since then, more documents, more pounds, and more inches have been added. By contrast, educational researcher Diane Ravitch (1995) notes that the Japanese national curriculum fits into "three slender volumes—one for elementary schools, one for lower secondary, and one for upper secondary schools" (p.15). Similarly, in 1995, Ron Brandt (1995), then executive editor of the Association for Supervision and Curriculum Development, noted that the designers of the national standards documents fell prey to the same trap that plagues subject-matter specialists in local districts: "specialists naturally expect a lot [in terms of what students should learn]; they know their subject and they know its possibilities. Taken as a whole, however, such statements of aspirations are overwhelming" (p. 5).

The problem of too much content in the national standards was underscored by findings from the Third International Mathematics and Science Study (TIMSS). TIMSS was a large-scale, cross-national comparative study of the educational systems in 41 countries. TIMSS researchers examined mathematics and science curricula and instructional practices in all participating countries. Overall, U.S. students did not fare well. To determine why U.S. students performed so poorly, TIMSS researchers examined the curricular practices in participating countries. One of the key findings from this analysis (Schmidt, McKnight, & Raizen, 1996) dealt with the amount of content covered in the mathematics and science curricula:

> Mathematics curricula in the U.S. consistently cover far more topics than is typical in other countries. The number of mathematics topics in the U.S. composite is higher than the 75th percentile internationally in all grades until ninth, when schools typically teach specific courses as algebra, geometry, etc.
>
> In science, the tendency toward inclusion is similar, though less pronounced. The number of science topics in the U.S. composite exceeds the 50th percentile internationally in all but one grade until the tenth, when schools tend to abandon general science approaches for specific courses such as chemistry and physics. (p. 4)

To illustrate the differences in the number of topics addressed by U.S. schools as compared to schools in other countries, consider Table 1.2 (p. 6).

Table 1.2
Number of Topics in Textbooks

Country	Mathematics		
	Grade 4	Grade 8	
United States	30 to 35	30 to 35	
Germany	20	20	
Japan	10	10	
Country	**Science**		
	Grade 4	**Grade 8**	**Grade 12**
United States	50 to 65	50 to 65	50 to 65
Germany	7	7	7
Japan	15	15	15

Note: Data from Schmidt, McKnight, & Raizen, 1996, p. 6.

As Table 1.2 shows, U.S. fourth- and eighth-grade mathematics textbooks cover between 30 and 35 topics, whereas textbooks in Germany and Japan cover 20 and 10 topics, respectively. Similarly, whereas U.S. fourth-, fifth-, and twelfth-grade science textbooks cover between 50 and 65 topics, German and Japanese textbooks address 7 and 15 topics, respectively. In short, the TIMSS study indicates that although U.S. mathematics textbooks attempt to address nearly 175 percent more topics than do German textbooks and 350 percent more topics than do Japanese textbooks, both German and Japanese students performed better than U.S. students in mathematics. Similarly, although U.S. science textbooks attempt to cover more than nine times as many topics as do German textbooks and four times as many topics as do Japanese textbooks, both German and Japanese students significantly outperform U.S. students in their understanding and use of science knowledge.

One might easily conclude that in their current state, the standards documents from the various subject areas are not useful tools for facilitating standards-based reform in American education. Specifically, the three problems outlined above must be addressed if the standards documents are to fulfill the bright promise they once embodied.

The McREL Standards Database

Over the last eight years, the Mid-continent Regional Educational Laboratory (McREL) has attempted to systematically address the three issues described above: (1) differing approaches to standards development, (2) multiple perspectives on standards within a subject area, and (3) too much content within and across content areas. Specifically, in part through its funding from the U.S. Office of Educational Research and Improvement, McREL has undertaken a series of research efforts that address each of these three issues. This report briefly describes McREL's

efforts to address the first two issues[2] and focuses on the third concern: too much content in the national standards documents.

To address the first two problems of differing approaches to developing standards and multiple documents within a content area, McREL analyzed 116 documents covering 14 different subject areas. The number of documents addressed for each subject area are reported in Table 1.3. The full list of documents is presented in Appendix A.

Table 1.3
Number of Documents Consulted for each Subject Area

Subject Area	Number of Documents
Mathematics	8
Science	15
History (U.S. and World)	12
Language Arts	32
The Arts	6
Civics	9
Economics	6
Foreign Language	3
Geography	6
Health	6
Physical Education	3
Technology	14
Behavioral Studies (Social Studies)	4
Lifelong Learning	18
Total	**142***

***Note:** The total number of documents is 142 as opposed to 116 because some documents address more than one subject area.

The subject areas listed in Table 1.3 represent the subjects that typically are part of the explicit and implicit curriculums in K–12 education. The subject area that is perhaps least recognizable is lifelong learning. This content area is composed of four subgroups of information and skill: (1) thinking and reasoning, (2) working with others, (3) self-regulation, and (4) life work. All of

[2] McREL's efforts to address the first two issues are described in depth in *Content Knowledge: A Compendium of Standards and Benchmarks for K–12 Education* (2nd Ed.) (Kendall & Marzano, 1997).

these are competency areas frequently mentioned in documents that represent the opinions of employers. For purposes of this report, these four subgroups are sometimes discussed as two subgroups: (1) thinking and reasoning and (2) work skills (which includes working with others, self-regulation, and life work). These categories are discussed in detail in *Content Knowledge: A Compendium of Standards and Benchmarks for K–12 Education* (2nd ed.) (Kendall & Marzano, 1997) and *A Comprehensive Guide to Designing Standards-Based Districts, Schools, and Classrooms* (Marzano & Kendall, 1996).[3]

When analyzing the documents for each subject area, McREL researchers selected a "reference report" whenever possible. In general, the reference document for a subject area was the document commonly considered to be the "official" document within that domain (see Table 1.1). For example, *National Science Education Standards* was selected as the reference report for the field of science since it is considered the official report for that domain. In general, the reference document provided the blueprint for the format in which standards and benchmarks within a given subject area were to be articulated.

Using the 116 documents listed in Appendix A, a composite set of standards and benchmarks was created. These standards and benchmarks have unofficially become known as the McREL standards database. The utility of this database resides in the fact that it contains the standards and benchmarks found in the 116 documents, all stated in a common format. To illustrate, eight documents were analyzed to construct the mathematics standards in the McREL database:

- National Council of Teachers of Mathematics. (1989). *Curriculum and Evaluation Standards for School Mathematics*. Reston, VA: Author.
- National Assessment of Educational Progress. (n.d.) *Mathematics Framework for the 1996 National Assessment of Educational Progress*. Washington, DC: Author.
- Project 2061, American Association for the Advancement of Science. (1993). *Benchmarks for science literacy*. New York: Oxford University Press.
- New Standards. (1997). *Performance Standards: English Language Arts, Mathematics, Science, Applied Learning, Volume 1, Elementary School*. Washington, DC: National Center on Education and the Economy.

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[3] Throughout the remainder of this report, the following definitions are used relative to these competency areas:

(1) The term *lifelong learning* is used when the areas of thinking and reasoning, working with others, self-regulation, and life work are discussed as a consolidated group.
(2) The term *work skills* is used when the areas of working with others, self-regulation, and life work are discussed as a consolidated group. In such cases, thinking and reasoning is discussed as a separate category.
(3) When appropriate, thinking and reasoning, working with others, self-regulation, and life work are discussed as four separate categories.

- New Standards. (1997). *Performance Standards: English Language Arts, Mathematics, Science, Applied Learning. Volume 2. Middle School.* Washington, DC: National Center on Education and the Economy.

- New Standards. (1997). *Performance Standards: English Language Arts, Mathematics, Science, Applied Learning. Volume 3. High School.* Washington, DC: National Center on Education and the Economy.

- International Baccalaureate. (1993). *Group 5 Mathematics Guide* (Edition 1.2). Geneva, Switzerland: Author.

- International Baccalaureate. (1995). *Middle Years Programme: Mathematics* (Edition 1.1). Geneva, Switzerland: Author.

The following mathematics standards were derived from McREL's analysis of these documents:

1. Effectively uses a variety of strategies in the problem-solving process
2. Understands and applies basic and advanced properties of the concepts of numbers
3. Uses basic and advanced procedures while performing the processes of computation
4. Understands and applies basic and advanced properties of the concepts of measurement
5. Understands and applies basic and advanced properties of the concepts of geometry
6. Understands and applies basic and advanced concepts of statistics and data analysis
7. Understands and applies basic and advanced concepts of probability
8. Understands and applies basic and advanced properties of functions and algebra
9. Understands the general nature and uses of mathematics

For each standard, benchmarks are articulated at four levels: Level 1: K–2; Level 2: 3–5; Level 3: 6–8; and Level 4: 9–12. To illustrate, consider the Level I benchmarks for standard 4, "Understands and applies basic and advanced properties of the concepts of measurement." These are reported in Table 1.4 (p. 10).

It is important to note that each benchmark is accompanied by a detailed *citation log*. (For ease of discussion here, we have not included all the information contained in the citation log for each benchmark. For a detailed discussion, see Kendall & Marzano, 1997.) The citations in the log specify the documents in which the benchmark appears and whether the knowledge is stated explicitly or implicitly within those documents. To illustrate, consider the citation for the first benchmark (ME,51;2E,290;PE,24;S1E,61). As the key at the bottom of Table 1.4 indicates, the

letter *M* means that the content is found in *Curriculum and Evaluation Standards for School Mathematics* from the National Council of Teachers of Mathematics. The letter *E* indicates that it is explicitly stated and the number *51* designates the page on which it is found. The number *2* indicates that the content also is found in the document *Benchmarks for Science Literacy* by Project 2061. Again, the letter *E* indicates that it is explicitly stated and the number *290* identifies the page on which that statement appears. The letter *P* indicates that the content is found in *The Mathematics Framework for the 1996 National Assessment of Educational Progress* by NAEP. The letter *E* and the number *24*, respectively, indicate that the content is explicitly stated on page 24. Finally, *S1* indicates that the content is found in *Performance Standards: English, Language Arts, Mathematics, Science, Applied Learning, Volume 1* by the New Standards Project. The letter *E* and the number *61*, respectively, indicate that the content is explicitly stated on page 61.

Table 1.4
Level I Benchmarks for Mathematics Standard 4

(ME.51.2E.290.PE.24.S1E.61) • Understands the basic measures length, width, height, weight, and temperature
(ME.51.2E.290.PE.24.S1E.61) • Understands the concept of time and how it is measured
(ME.52.2E.290.PI.25.S1E.61.64) • Knows processes for telling time, counting money, and measuring length, weight, and temperature, using basic standard and non-standard units
(ME.51.2E.290.PE.25.S1I.61.64) • Makes quantitative estimates of familiar linear dimensions, weights, and time intervals and checks them against measurements

Source Codes (right side of page)

1st letter of each code in parentheses	*2nd letter of code*	*Number*
M = NCTM: Curric. & Eval. Standards for Math	E = Explicitly stated in document	Page number of
2 = Project 2061: Benchmarks for Science Literacy	I = Implied in document	cited document
P = NAEP: Mathematics Assessment Framework		
S1 = New Standards: Elementary Level		

The standards in the McREL database are reported in Appendix B. For a complete listing of the benchmarks within each standard, the reader should consult *Content Knowledge: A Compendium of Standards and Benchmarks for K–12 Education* (2nd. ed.) (Kendall & Marzano, 1997). The complete database is also available on the World Wide Web (Uniform Resource Locator: www.mcrel.org).

There is a consistent level of generality across all benchmarks and all standards within the McREL standards database. Articulating the standards and benchmarks from the 116 documents in a consistent format (as shown in Table 1.4) was intended to solve the problem of the differing approaches to standards development used in the national documents. Apparently, this consistency in format has been appreciated by educators as evidenced by the fact that the McREL database has been used in numerous state- and district-level efforts as a resource for designing standards and benchmarks. In addition, the McREL database solves the problem of multiple documents in that it is a composite accounting of the information and skills identified in all

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relevant standards documents. However, the database does nothing to alleviate another problem plaguing the efforts to design and implement standards-based education: too much content.

The Lingering Problem of Too Much Content

Although it can be argued that the McREL database addresses the issues of multiple documents and differing approaches, clearly it does not address the problem of too much content within and across content areas. Indeed, the database contains some 200 standards and 3,093 benchmarks.[4] The manner in which the 200 standards and their related benchmarks are distributed across various subject areas is summarized in Table 1.5 (p. 12).

As Table 1.5 shows, the 200 standards are not distributed evenly across the subject areas. In addition, standards for different content areas vary in the number of benchmarks they include. Language arts has the greatest number of benchmarks per standard (34.25); the arts has the fewest number of benchmarks per standard (10.76).

As discussed previously, one criticism of the national standards documents has been that they simply contain too much content. This criticism has been based largely on the perception that numerous pounds, inches, and pages in which the standards are reported represent a body of knowledge that is beyond the capacity of public education to address and, perhaps, is beyond the needs of K–12 students. However, to answer the question of whether 200 standards and 3,093 benchmarks are truly "too much content," one must answer two questions: How much time is available in K–12 education? and How much time does it take to adequately address the 200 standards and their 3,093 benchmarks? Quite obviously, if there is enough time available to adequately teach 200 standards and their related benchmarks, then this collective set of standards does not involve "too much" content for a K–12 system.

How Much Time Is Available in K–12 Education?

Presumably, one of the most stable aspects of time-usage is the number of days in the school year—probably because of state law mandates. The common assumption is that schools operate on a 180-day calendar. Studies have found some significant variations, however. For example, in a 1983 study of United States schools, Karweit found that the number of days scheduled for school ranged from 175 to 184 days, for an average of 179. A more recent study by the National

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[4] The figures of 200 standards and 3,093 benchmarks are substantially different from the figures of 256 standards and 3,968 benchmarks actually contained in the McREL database. This is because the 87 history standards in the database and their accompanying benchmarks are not intended to be addressed at each grade level. Rather, they are designed to be distributed across the various grade levels. Consequently, if a history standard that addresses "how political institutions and religious freedom emerged in the North American colonies" (see U.S. history standard 4 in Appendix B) is addressed at grades 5–6, this content would not be repeated at other grades even though benchmarks have been identified under this standard for other grade levels. Thus, *for the purposes of implementation*, the content in the McREL database can be thought of as covering 200 separate standards that address 3,093 benchmarks.

Education Commission on Time and Learning, published as *Prisoners of Time* (1994), reported that as of 1994, 11 states permit school terms of 175 days or less and only one state requires more than 180 days.

Table 1.5
Summary of Standards and Benchmarks by Subject Area
(Classroom Implementation Set)

Subject Area	Number of Standards	Number of Benchmarks	Benchmarks/ Standards
Mathematics	9	226	25.11
Science	16	265	16.56
History	31	407	13.13
Historical Understanding	2	48	24.00
K–4 History	4	54	13.50
U.S. History	10	135	13.50
World History	15	170	11.33
Language Arts	8	274	34.25
Geography	18	238	13.22
The Arts	25	269	10.76
Connections	1	13	13.00
Dance	6	62	10.33
Music	7	80	11.43
Theatre	6	72	12.00
Visual Arts	5	42	8.40
Civics	29	427	14.72
Economics	10	159	15.90
Foreign Language	5	84	16.80
Health	10	136	13.60
Physical Education	5	105	21.00
Behavioral Studies	4	100	23.00
Technology	5	94	18.80
Thinking & Reasoning	6	121	20.17
Work Skills	19	188	21.00
Working with Others	5	51	10.20
Self-Regulation	6	59	9.83
Life Work	8	78	9.75
Total	**200**	**3,093**	**15.47**

A number of studies also have been conducted concerning the length of the school day. In 1963, Reuter found that the length of the school day varied from four to six hours. In the late 1970s, a large-scale study known as the Beginning Teacher Evaluation Study (BTES) found that second graders were in school 5.5 hours, whereas fifth graders were in school for 6.0 hours (Fisher et al., 1978). Harnischfeger and Wiley (1978) found that the length of the school day within the same district could vary by as much as 45 minutes. A 1994 study by the National Education Commission on Time reported that, on the average, schools offer a six-period day with about 5.6 hours of classroom time per day. Thus, although fairly stable, the length of the school day also varies across the country.

If one accepts the estimate of 5.6 hours of classroom time per day and assumes that the school year is 180 days in length, then about 1,008 hours (5.6 x 180) of classroom time are available in a school year, and 13,104 hours (13 x 1,008) are available in thirteen years of schooling—grades K–12. In all, then, teachers have a maximum of 13,104 hours to work with students to teach and reinforce the knowledge identified in the 200 standards and 3,093 benchmarks. One might assume that 3,093 benchmarks can easily be covered in 13,104 hours. However, not all classroom time that is *available* for instruction is *used* for instruction.

Those who study the use of school time commonly think of the school day as divided into two categories of time: instructional time and noninstructional time. Noninstructional time includes such activities as recess, passing between classes, and the like. Estimates of how much time is actually devoted to instruction vary widely. Conant (1973) reported that only 31 percent of the school day is devoted to instruction. Park (1976) reported that between 21 percent and 69 percent of the school day is used for instruction. Marzano and Riley (1984) found that 66 percent of the school day was used for instruction. The National Education Commission on Time and Learning (1994) reported that only 41 percent of the school day is devoted to core academic work in U.S. schools. (We should note that the commission defines core academic subjects as English and language arts, mathematics, science, civics, geography, the arts, and foreign language).

If we take the highest estimate of 69 percent as the upper boundary of the amount of time that is typically allocated to instruction within the current system, then we can conclude that of the 13,104 hours involved in K–12 education, 9,042 hours (.69 x 13,104) are available for instruction in the best of circumstances, or about 695.6 hours per year. In the most optimistic scenario, then, educators have a total of 9,042 hours, spanning kindergarten through grade 12, within which to teach and reinforce the 200 standards and 3,093 benchmarks.

How Much Time Does It Take to Adequately Address 200 Standards and 3,093 Benchmarks?

Although there is a wealth of research one can access to answer the question of how much time is available in K–12 education, there is little, if any, that directly addresses how much time it takes to teach specific standards and benchmarks. To informally address this question, McREL researchers asked 350 practicing teachers to estimate the amount of time (rounded to the nearest hour) it would take to "adequately address" the content in a representative sample of benchmarks from the database (Marzano, 1998).

At least two estimates of time were obtained for each benchmark. The average number of hours estimated across all sample benchmarks was computed to be approximately five hours. This overall mean was considered an estimate of the average number of hours it would take to address any given benchmark in the database. The estimated hours necessary to address each standard was computed by multiplying the number of benchmarks by the five hours estimated to teach each benchmark. Although we recognize that this crude method of estimation can result in a fair amount of error in the estimates of time, it does illustrate the general magnitude of the content volume issue. The estimates of the amount of time required for the various standards[5] in the various subject areas are reported in Table 1.6.

Table 1.6
Time Required to Address
Subject-Matter Standards and Benchmarks

Subject Matter	Time in Hours
1. Civics	**2135**
2. History	**2035**
Historical Understanding	240
K–4 History	270
U.S. History	675
World History	850
3. Work Skills	**940**
Working With Others	255
Self-Regulation	295
Life Work	390
4. Language Arts	**1370**
5. The Arts	**1345**
Connections	65
Dance	310
Music	400
Theatre	360
Visual Arts	210
6. Science	**1325**
7. Geography	**1190**
8. Mathematics	**1130**
9. Economics	**795**
10. Health	**680**
11. Thinking and Reasoning	**605**
12. Physical Education	**525**
13. Behavioral Studies	**500**
14. Technology	**470**
15. Foreign Language	**420**
Total	**15,465**

As Table 1.6 illustrates, civics and history, if addressed comprehensively, would take the most amount of time to teach. In fact, together they would take 4,170 hours, or 46 percent of the

[5] The amount of time required was estimated by multiplying the number of benchmarks associated with each standard by five hours.

available instructional time (4,170 divided by 9,042 hours available for instruction).

Perhaps of most interest to the question of the feasibility of addressing all 200 standards and 3,093 benchmarks is the total amount of time reported in Table 1.6—namely 15,465 hours. Simple deduction leads one to the conclusion that 15,465 hours of time *necessary* to teach 200 standards and 3,093 benchmarks do not fit into the 9,042 hours *available* for instruction. Stated differently, educators would have to increase the amount of time available for instruction by about 71 percent to accommodate all the standards and benchmarks in the McREL database. This means that within the current configurations of time-usage, schooling would have to be extended from K–12 to K–21, or 22 years of schooling. In short, the answer to the question of whether the standards documents considered as a group contain too much content, based on even the crude estimates used here, is an unqualified "yes."

Addressing the Problem

One method of addressing the problem of too much content is to increase the amount of time available for instruction. This is certainly a viable option, one that should seriously be considered at least as a partial solution. This option has been addressed in other works, such as *Prisoners of Time*, published by the National Education Commission on Time and Learning (1994). The study results reported here provide another option: decreasing the number of standards to be addressed in K–12 education based on the perceived importance of each standard.

Decreasing the breadth of what is taught is certainly an implication of the TIMSS findings (Takahira, Gonzales, Frase, & Salganik, 1998). But how does one go about choosing from among the multiple standards and benchmarks in the McREL database? Asking subject-matter experts to rate or rank the importance or necessity of standards in these content areas might be one strategy for gaining insight into which standards to choose.[6] Another possible approach is to poll the American public at large about what should and should not be included in a K–12 educational experience. Certainly, the involvement of local community members in decisions about what should be taught in schools aligns well with the assumptions underlying public education. Indeed, educational historian Diane Ravitch (1983) notes that local control has traditionally been a centerpiece of American education. Historian John Puliam (1987) echoes Ravitch's comments, in addition noting that strong involvement of the local community in policy and curricular issues is imperative to effective education.

In an effort to provide a prototype of how schools and districts might approach local community members relative to the issue of which standards should be addressed in the curriculum, McREL procured the services of the Gallup Organization to survey the American public regarding the relative importance of the standards in the McREL database.

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[6] McREL is considering implementing this approach as a companion study to the one reported here.

CHAPTER 2

METHODOLOGY

McREL contracted with the Gallup Organization in Princeton, New Jersey, to develop and administer a survey that would address all of the standards in the McREL database. This chapter describes the characteristics of the questionnaire and the general methodology used in the survey.

The Survey

To limit the number of standards any one respondent would have to rate, a four-questionnaire design was used, with respondents randomly receiving one of the surveys. Each questionnaire addressed different subject areas as shown in Table 2.1. This table also shows the number of survey items used to obtain ratings on the set of standards from the McREL database.

Table 2.1
Subject Areas and Number of Items
Covered by Questionnaires

Questionnaire	Subject Areas Covered	# of Items
Questionnaire #1	World History, Health, Mathematics, Foreign Language	81
Questionnaire #2	U.S. History, Physical Education, Science, Behavioral Studies, Technology	81
Questionnaire #3	Civics, Language Arts, Lifelong Learning, Economics	89
Questionnaire #4	Geography, The Arts, Historical Understanding	90
	Total	**341**[7]

[7] Readers should note that the total of 341 questions exceeds the totals of 256 and 200 standards previously mentioned. The reason for the difference between the figures of 200 standards and 256 standards was explained previously in the discussion concerning Table 1.5 (see footnote 4). Specifically, the figure of 256 is based on the inclusion of all history standards; the figure of 200 is based on the assumption that once a history standard is addressed at a given level, it will not be addressed at other levels. Since the figure of 256 is the accurate representation of how many topics are addressed in the McREL database, it was considered the starting point for the development of the questionnaire since the questionnaire was intended to elicit respondent opinion regarding all topics in the McREL database. The figure of 200 is the accurate representation of how many K–12 standards a district would have to address to include all topics in the McREL database.

The discrepancy between the figure of 256 standards in the database and the 341 questions on the surveys is a result of subdividing some of the standards. Specifically, some standards were addressed by more than one question on the survey because it was assumed that the standard, as stated, was too "dense" in content to be easily understood by the public at large. To illustrate, consider the following standard in mathematics: "Understands and applies basic and advanced concepts of statistics and data analysis." Because this standard involves a number of different concepts and skills, it was represented by the following two questions on the survey:

(1) Ability to analyze data using concepts such as mean, median, and standard deviation

Within each questionnaire, subjects were asked to indicate if they thought a standard was *definitely*, *probably*, *probably not*, or *definitely not* one that students should know or be able to do by the time they graduated from high school. The directions in the questions were designed to make it clear to respondents that they were making recommendations as to what students should be taught in school as opposed to what should be taught at home or learned incidentally. Each item was rated independently of the others. The specific directions given to respondents were as follows:

For each proposed standard please indicate with an "X" in the box if you think it is **definitely**, **probably**, **probably not** or **definitely not** a level of knowledge that students today should have by the time they graduate from high school. Mark **don't know** only if you really are in doubt whether or not it is an appropriate level of attainment for high school graduates.

The number of questionnaire items pertaining to any one subject area ranged from 5 to 48. The total number of items addressed in each survey varied from 81 to 90 as shown in Table 2.1.

Selection of a Metric

The use of the four response categories *definitely*, *probably*, *probably not*, and *definitely not* allowed for the creation of a number of metrics that could have been used to analyze responses. Despite the many options available, based on the advice of Gallup, it was determined that the percentage of responses in each category (i.e., *definitely*, *probably*, *probably not*, and *definitely not*) would be the basic metric employed in the study. In addition, it was determined that the percentage of respondents who rated an item as *definitely* necessary would be used as the first line of analysis since it represented the strongest indication from respondents regarding what should be included in a school curriculum.

Population and Sampling

The U.S. population surveyed was adults ages 18 and over, living in the continental United States. A telephone recruitment/mail survey design was used for selecting the sample. This

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(2) Ability to effectively present data in tables and graphs

The responses to these two questions were then aggregated to compute the overall response to this standard.

In other cases, standards were combined, rather than subdivided. For this reason, the survey addresses 248 standards as opposed to 256. Specifically, eight standards in the subject area of K–4 social studies (listed under history) were subsumed under appropriate standards in each of the social studies disciplines. It was determined that, owing to the greater specificity afforded by standards in each of the disciplines of history, civics, and geography, U.S. adults would already have an opportunity to express their opinions about the importance of these topics. Thus, separate standards for the K–4 social studies material were considered both unnecessary and redundant. Consequently, the survey was designed to address only 248 of the 256 standards in the McREL database. For the remainder of this report, the number *248* will be used in discussions of the total corpus of standards that were addressed in the survey.

design first involved random-digit dialing to recruit respondents. Those agreeing to participate were mailed one of the four survey instruments. The random-digit aspect of the sampling was used to avoid "listing bias," based on Gallup's experience that households with unlisted telephone numbers are different in important ways from listed households. The sample of telephone numbers produced using this methodology is representative of all telephone households within the continental United States.

Given the complexity of the mail survey and the absence of a financial incentive, a relatively low questionnaire completion and return rate was anticipated, even among those who agreed to participate. It was determined that an oversampling strategy was needed. Based on the fact that a sample of 2,400 adults (600 per questionnaire) was needed to attain the desired confidence level of 95% ± 5% and the assumption that about 33% of the questionnaires would be completed and returned, it was determined that about 7,400 willing participants would be identified.

The telephone recruitment phase of the study ran from November 10 through December 19, 1997. During this period, 7,418 adults, or 73 percent of the households, reached agreed to complete the mail survey. Those who did not return their survey in two weeks were called and reminded to do so. If they indicated they had misplaced their questionnaire, they were sent a second copy. A second reminder call was made after about two weeks.

Up to three calls were made to each selected telephone number. The time of day and the day of the week for callbacks varied in order to maximize the chances of finding respondents at home. All calls were conducted on weekends or on weekday evenings to include potential respondents among the working population.

Within each household contacted, commitment to do the mail survey was sought with the youngest male 18 years of age or older who was at home. If no male was home, commitment was sought with the oldest female at home. This method of respondent selection was employed based on Gallup's experience that it produces an age distribution by gender that closely approximates the age distribution by gender of the total population.

January 22, 1998 was set as the cut-off date for receiving surveys. As of that date, a total of 2,553 completed questionnaires were returned from a total of 7,418 adults across the country who agreed to participate in the study. This response rate of 34% (consistent with the expected return rate) yielded adequate sample sizes for each of the four questionnaires: 690 for Survey I; 667 for Survey II; 599 for Survey III; and 597 for Survey IV.

The final sample was weighted in terms of gender, age, and education so that the distribution of the sample matched current estimates derived from the U.S. Census Bureau's Current Population Survey (CPS). Stated differently, the final sample was weighted in such a way as to represent the differing distributions of U.S. adults relative to gender, age, and education.

Sampling Tolerances

All sample survey results are subject to sampling error—that is, the extent to which the results may differ from what would be obtained if the whole population (in this case the entire adult

population of the continental U.S.) had been surveyed. The size of such sampling error depends largely on the number of interviews. Again, this study was designed to limit sampling error to less than ± 5% at the 95% confidence level. The sampling error tolerances for various response percentages, given the sample sizes in this study, are provided in Table 2.2.

Table 2.2*
Sampling Tolerances for Percentages

In Percentage Points (at 95 in 100 confidence level)** Sample Size							
Response %	**1,500**	**1,000**	**750**	**600**	**400**	**200**	**100**
Percentages near 10	2	2	3	3	4	5	8
Percentages near 20	3	3	4	4	5	7	10
Percentages near 30	3	4	4	5	6	8	12
Percentages near 40	3	4	5	5	6	9	12
Percentages near 50	3	4	5	5	6	9	13
Percentages near 60	3	4	5	5	6	9	12
Percentages near 70	3	4	4	5	6	8	12
Percentages near 80	3	3	4	4	5	7	10
Percentages near 90	2	2	3	3	4	5	8

* Provided by the Gallup Organization.
** The chances are 95 in 100 that the sampling error is not larger than the figures shown.

Table 2.2 indicates the range (reached by adding or subtracting the percentage shown to the original result) within which the results of repeated samplings in the same time period could be expected to vary 95% of the time, assuming the same sampling procedure, the same interviewers, and the same questionnaire. To illustrate how Table 2.2 is used, assume that 33 percent of the respondents to Survey I reported that students should "definitely" know the content of a given standard prior to high school graduation. Given that the number of respondents completing Survey I was 690, the sample size column of 750 in Table 2.2—the column indicating a sample size closest to the actual sample size of 690—would be consulted. Next, the row entitled "Percentages near 30" would be consulted since it is closest to the observed percentage of 33. The intersection of the identified row and column contains the number 4. This means that the figure of 33 percent obtained in the sample is subject to a sampling error of plus or minus four points. In other words, 95 times out of 100 the true response rate would be between 29% and 37%, with the most likely rate being the 33% obtained.

In some instances, it is useful to compare percentages from different respondent groups or from different items. For example, assume that the overall percentage of respondents rating a

particular item as "definitely" necessary for high school graduation was 24%; however, 28% of females rated it as "definitely" necessary, and only 20% of males rated it as "definitely" necessary. The question arises as to whether this difference of eight percentage points between male and female respondents can be attributed to sampling error or to a true difference of opinion. To address this issue, a different approach to estimating sampling error is used. Table 2.3 is used to determine the sampling error for differences between percentages.

Table 2.3*
Sampling Tolerances for Differences Between Percentages

In Percentage Points (at 95 in 100 Confidence Level) **						
	Percentages near 20 or percentages near 80					
Size of Sample	**1,500**	**1,000**	**750**	**600**	**400**	**200**
1,500	4					
1,000	4	5				
750	5	5	5			
600	5	5	6	6		
400	6	6	6	7	7	
200	8	8	8	8	9	10
	Percentages near 50					
Size of Sample	**1,500**	**1,000**	**750**	**600**	**400**	**200**
1,500	5					
1,000	5	6				
750	6	6	7			
600	6	7	7	7		
400	7	8	8	8	9	
200	10	10	10	10	11	13

* Provided by the Gallup Organization.
** The chances are 95 in 100 that the sampling error is not larger than the figures shown.

First it is necessary to determine whether the percentages being compared are nearer 20% or 80% or are nearer 50%. In this case, the percentages of 20 and 28 are nearer 20; therefore the top half of Table 2.3 is used. Next, the number of respondents for each group is located in the table. Assume that the number of females responding to the item was 320 and the number of males responding was 370. Considering the number of females first, the row (or column) that contains

the number closest to the actual sample size is identified. In this case that row is 400. Next, the column that contains the number closest to the actual sample size of males is identified. Again this number is 400. The intersection of this row and column contains the number 7. This means that the allowance for error is seven percentage points and that 95% of the time, the percentage of female responses to this item will be between 1 and 15 points (i.e., subtracting or adding 7 to the original difference of 8 percentage points: 8–7 and 8+7) higher than the percentage of male responses. In other words, one could conclude with considerable confidence that a difference of opinion exists in the direction observed and that it amounts to at least one percentage point.

Respondent Demographic Information

In addition to responses on the various items representing standards in different content areas, each questionnaire sought demographic data about respondents. These demographic questions are summarized in Table 2.4.

Table 2.4
Demographic Questions

These last questions are for classification purposes. As with the other responses you have given, there will be no linkage of your answers to you personally. Gallup will keep all of your answers strictly confidential.

1. Please mark the box that corresponds to your age:

   - ☐ 18–24
   - ☐ 25–34
   - ☐ 35–44
   - ☐ 45–54
   - ☐ 55–64
   - ☐ 65–74
   - ☐ 75 or older

2. Please mark the highest level of formal education you have completed:

   - ☐ 8th grade or less
   - ☐ Some high school
   - ☐ High school graduate
   - ☐ Trade, Technical or Vocational Training Beyond High School
   - ☐ Some college, including Community or Junior College
   - ☐ Undergraduate College or University Degree
   - ☐ Graduate School Courses Work or Degree

3. To which of the following race or ethnic groups do you primarily consider yourself to belong? *(Please mark one box only)*

   - ☐ Black or African-American
   - ☐ Asian
   - ☐ Pacific Islander
   - ☐ Hispanic
   - ☐ Native American, including American Indian, Eskimo and Aleut
   - ☐ Origin in Indian sub-continent
   - ☐ Other

4. Currently, are you employed full-time, part-time, or not employed?

   - ☐ Full-time
   - ☐ Part-time
   - ☐ Not employed

5. Which of the following categories represents your total annual household income, before taxes:

   - ☐ Under $15,000 (Under $288 per week)
   - ☐ $15,000 to $24,999 ($289 to $480 per week)
   - ☐ $25,000 to $34,999 ($481 to $673 per week)
   - ☐ $35,000 to $39,999 ($674 to $769 per week)
   - ☐ $40,000 to $49,999 ($770 to $961 per week)
   - ☐ $50,000 to $59,999 ($962 to $1,154 per week)
   - ☐ $60,000 to $74,999
   - ☐ $75,000 to $99,999
   - ☐ $100,000 to $124,999
   - ☐ $125,000 or more

6. Are you male or female?

   - ☐ Male
   - ☐ Female

7. In which state do you have your main residence? *(Example: "Arizona" ☐☐)*

   - ☐ Main residence is outside of the 50 U.S. States

In addition, three questions were included in each questionnaire that dealt with respondents' perceptions of the basic purpose or goal of education:

1. A main goal of education should be to provide knowledge that helps individual students obtain meaningful employment.

2. A main goal of education should be to provide knowledge that helps individual students have a well-rounded, productive life.
3. A main goal of education should be to provide knowledge that allows our country to acquire and maintain a competitive edge.

For each of these three statements, respondents were asked to indicate whether it should *definitely*, *probably*, *probably not*, or *definitely not* be a main goal of education. These demographics and perceptions were included to allow analyses of various subpopulation viewpoints.

CHAPTER 3

OVERALL FINDINGS

This chapter presents and discusses the findings of the study when responses are considered as a whole— that is, when responses are not subdivided into various subpopulations. A number of questions were addressed in analyzing the data from this perspective. Specifically, this chapter summarizes the findings relative to subject areas and individual standards and addresses the issue of how we might decide which standards to keep in the curriculum and which to delete.

Which Subject Areas Received the Most Favorable Responses?

The four surveys considered as a group address the subject areas that most often represent traditional ways of organizing school curriculum. Consequently, data were analyzed to determine the relative importance of the standards in various subject areas as perceived by respondents, even though it was recognized that such analyses do not address many important distinctions. Specifically, aggregating the findings for the standards within the various subject areas masks the variance among standards within each subject area.

Table 3.1 (p. 24) lists subject areas in rank order by the average percentage of respondents who rated each standard within a subject area as "definitely" necessary. As can be seen in Table 3.1, the health standards had the highest overall rating with an average of 73.9 percent. The arts—dance, music, theatre, visual arts—had the lowest overall rating with a mean score of only 15.5 percent. If one uses 50 percent as the general indicator of acceptance by the majority of American adults, then only five subject areas would have the requisite level of overall support: health, work skills (i.e., working with others, self-regulation, and life work), language arts, technology, and mathematics.

Table 3.1 notes the variation in responses to standards within each subject area. This is indicated by the columns "low," "high," and "range." The subject area with the widest range of responses relative to different standards was history. For one history standard, only 6.4 percent of respondents indicated that it "definitely" should be required for high school graduation, whereas for another history standard, 72.7 percent of respondents indicated that it "definitely" should be required. The difference (i.e., range) between these high and low responses is 66.3 percentage points. This indicates that respondents viewed individual history standards quite differently relative to the necessity of their inclusion in a K–12 curriculum. Behavioral studies, on the other hand, had the smallest range of "definitely" necessary responses across standards (12.0%), indicating that respondents generally assigned the individual standards in this subject area the same degree of importance to a K–12 education.

Which Standards Received the Most Favorable Responses?

As mentioned above, considering the standards in subject-matter categories does not address the variability within subject areas relative to the perceived importance of specific standards and can

lead to erroneous conclusions about the importance of various content areas. It is interesting to note that 13 of the 15 subject areas listed in Table 3.1 include at least one standard for which 50% of respondents indicated that it should "definitely" be included in the curriculum. Table 3.2 (p. 25) lists the number of standards in each content area that were rated as "definitely" necessary by at least 50% of the respondents. In total, 102 (41%) of the standards rated met this criterion.

Table 3.1
Ranking of Subject Areas
by Average Percentage of "Definitely" Responses

Rank	Subject	Number of Standards	Average % of "Definitely" Responses	Low	High	Range
1.	Health	10	73.9	60.5	89.6	29.1
2.	Work Skills	19	62.6	52.6	72.2	19.6
3.	Language Arts	8	59.4	44.2	83.1	38.9
4.	Technology	5	57.4	44.8	76.5	31.7
5.	Mathematics	9	50.1	29.8	69.1	39.3
6.	Thinking and Reasoning	6	49.8	36.4	62.7	26.3
7.	Science	16	49.0	32.6	68.9	36.3
8.	Civics	29	48.7	27.6	68.5	40.9
9.	Behavioral Studies	4	48.2	41.9	53.9	12.0
10.	Physical Education	5	44.2	23.0	59.8	36.8
11.	Economics	10	42.5	27.7	56.9	29.2
12.	History	79	40.8	6.4	72.7	66.3
13.	Geography	18	38.8	25.0	74.2	49.2
14.	Foreign Language	5	26.7	14.3	35.7	21.4
15.	The Arts	25	15.5	5.2	33.2	28.0

It is interesting to note the pattern of standards that received high and low "definitely" necessary ratings by respondents. To illustrate, consider the top 25 standards (i.e., standards that occupy ranks 1 through 25) and the bottom 25 standards (i.e., standards that occupy ranks 224 through 248). As shown in Table 3.3 (p. 26), the percentages of "definitely" necessary responses relative to the standards in these groups represent dramatically different subject areas.

Table 3.2
Number of Standards by Subject Area
Rated as "Definitely" Necessary by 50% of Respondents

Subject Area	# of Standards in the Subject Area	# of Standards Rated "Definitely" Necessary by 50% or More of Respondents
Health	10	10
Language Arts	8	6
Life Work	8	8
History	79	28
Mathematics	9	4
Technology	5	2
Geography	18	4
Science	16	8
Civics	29	13
Self-Regulation	6	6
Working with Others	5	5
Thinking and Reasoning	6	3
Physical Education	5	2
Economics	10	2
Behavioral Studies	4	1
Foreign Language	5	0
The Arts	25	0
Total	**248**	**102**

Nine out of 25 standards, or 36 percent of the top 25 rated standards, are from the subject area of health. In addition, these nine standards represent 90 percent (i.e., 9 out of 10) of the total number of standards identified as essential by health experts. One might infer from these findings that American adults share a common view with health educators about what is important for students to know in the area of health education. Of equal interest is the fact that five life work standards are among the top 25. This represents 62.5 percent (i.e., 5 out of 8) of the total life work standards in the McREL standards database. Again, one might infer that those experts who developed the life work standards share the American public's view that work-related skills such as managing money and cultivating a strong work ethic should be taught and reinforced.

A review of the bottom 25 standards also reveals some interesting patterns. For example, 15 of the bottom 25 standards (i.e., 60 percent) are arts standards—dance, music, theatre, and the

visual arts. Indeed, these 15 standards represent 60 percent (i.e., 15 of 25) of the total number of arts standards identified by arts educators.

Table 3.3
Summary of Top 25 and Bottom 25 Standards
Based on Percentage of "Definitely" Responses

Top 25 Standards		Bottom 25 Standards	
Subject Area	**Number of Standards**	**Subject Area**	**Number of Standards**
Health	9	World History	9
Life Work	5	Dance	5
Technology	3	Music	5
U.S. History	2	Theatre	4
Mathematics	2	Visual Arts	1
Language Arts	1	Foreign Language	1
Geography	1		
World History	1		
Civics	1		
Totals	**25**		**25**

One might infer that the American public does not agree with the importance of many of the arts standards as expressed by subject-matter experts in that field. Consider, for example, *National Standards for Arts Education: What Every Young American Should Know and Be Able to Do in the Arts*, the official national standards documents for arts (Consortium of National Arts Education Associations, 1994). The very title of the document communicates the authors' assumptions that the content identified within should be considered essential for all students. To illustrate, the arts educators provide the following rationale for their assertions:

> Arts education benefits both students and society. It benefits the *student* because it cultivates the whole child, gradually building many bonds of literacy while developing intuition, reasoning, imagination, and dexterity into unique forms of expression and communication . . . .
>
> An arts education benefits *society* because students of the arts disciplines gain powerful tools for:
>
> - understanding human experience, both past and present
> - learning to adapt to and respect others . . .
> - learning artistic modes of problem solving . . .
>
> (p.6)

Clearly, arts educators do not perceive the content within their domain as ancillary to the education of K–12 students in America. Clearly, the population of U.S. adults do not perceive the arts standards as essential to K–12 education. Again, however, it should be noted that individuals responding to this survey were not asked to select any one standard at the expense of another or to consider standards as a group.

The bottom 25 standards also include a disproportionate number of world history standards (9 of 25, or 36 percent). However, it is important to note that these nine standards represent only 19.5 percent (9 out of 46) of the total number of world history standards. Indeed, one world history standard (number 41) is included among the top 25. This standard deals with a topic that American adults probably consider essential to being able to function effectively in society—the causes and global consequences of World War II. More obscure world history topics, such as major developments during the Tang Dynasty from 600 to 900 CE and the rise of the Mongol empire between 1200 and 1350 CE, were not as highly valued by respondents to this survey.

What Do We Keep and What Do We Leave Out?

The results of this survey provide a ranking of subject-area standards in terms of the preferences of the American public at large. The complete set of standards listed according to the percentage of respondents rating them as knowledge that is "definitely" necessary for students to learn prior to high school graduation is provided in Appendix C. When these findings are considered in light of what is known about the amount of time available in school and estimates of the amount of time necessary to address standards (see discussion in Chapter 1), one can begin to identify which standards, in the opinions of American adults, should be addressed within the confines of the current educational system. In other words, the information derived from this study, along with estimates of how long it would take to address the content inherent in each standard, allows for the identification of a "cut-point" for selecting the standards that would be included (and not included) in a K–12 curriculum.

To illustrate how such a cut-point could be established, consider the following process. As discussed in Chapter 1, research indicates that there are approximately 9,042 hours available for instruction during the course of a K–12 education. If one keeps a running total of the amount of time it takes to teach each standard beginning with the top-ranked standard, the 9,042-hour limit eventually is reached. Assuming the previous estimate of five hours per standard, the 9,042-hour limit is reached at the 133rd standard listed in Appendix C, which lists all 248 standards rank ordered in terms of the percentage of "definitely" responses.

Arguably, 133 is a very conservative estimate of the number of standards that could be accommodated in a K–12 curriculum because it is not likely that each standard would be addressed independently of all others in the classroom. An adjustment factor might be needed to account for the fact that the content of some standards overlaps from a teaching and learning perspective (e.g., mathematics, and thinking and reasoning). For purposes of this illustration, a 20% overlap was assumed in the teaching time associated with standards to be covered. Of course, the exact percentage of overlap will vary depending on the assumptions made. Using the

20% figure assumed here allows for the development of a K–12 curriculum that includes 160 standards within the allotted 9,042 hours. Appendix C includes a bolded line at standard 133 to indicate the cut-point that would be established using the ratings in this study without considering the 20% overlap and a hatched line at standard 160, which signifies the cut-point that takes the 20% overlap into consideration. In the remainder of this report we refer to cut-points made under the assumption of a 20% overlap as the "20% overlap cut-point." Conversely, we refer to cut-points made under the assumption of no overlap as the "no overlap cut-point."

Clearly, the K–12 curriculum that would result from the process of utilizing cut-points based on estimates of time would have some interesting characteristics. Table 3.4 (p. 29) reports the comparative influence of the various subject-matter areas on the curriculum using both the no overlap and 20% overlap cut-points.

Under the no-overlap assumption, the curriculum depicted in Table 3.4 is totally devoid of content in the arts or foreign languages. History (world history and U.S. history) accounts for 30 percent of the curriculum. Thinking and reasoning plus work skills (i.e., working with others, self-regulation, and life work) have been referred to as lifelong learning skills in previous discussions; together, these areas account for 17 percent of the curriculum. Civics accounts for 14 percent of the curriculum, and science and mathematics account for 12 percent.

Perhaps equally interesting is the percentage of the standards identified by various subject-matter experts that would be included in the curriculum using the no-overlap assumption. This is depicted in the fourth column of Table 3.4. Specifically, under the no-overlap assumption, all standards identified by subject-matter experts in health, technology, and work skills (i.e., working with others, self-regulation, and life work) would be included in the curriculum. In addition, 50 percent or more of the standards identified by experts in the following subject areas would be included in the curriculum: mathematics, science, history, language arts, civics, technology, behavioral studies, and thinking and reasoning. On the other hand, a number of subject areas would have no standards or a minority of standards included in the curriculum. Specifically, not a single standard in the arts or in foreign language would be included in the curriculum, and less than 50 percent of the standards in world history, economics, geography, and physical education would be included.

Under the assumption of the 20% overlap, the curriculum exhibits similar characteristics. The curriculum still would be devoid of content in the arts and foreign language. History still would account for 30 percent of the curriculum even though 20 percent more standards are addressed in that curriculum. Lifelong learning skills would account for 16 percent of the curriculum, civics for 15 percent of the curriculum, science and math for 12 percent. In addition, the curriculum would include all of the standards identified by experts in the subject area of language arts, health, technology, behavioral studies, thinking and reasoning, and work skills. In addition, 50 percent or more of the standards identified by experts in the following subject areas would be included in the curriculum: mathematics, science, history, civics, economics, and physical education. Geography would have less than 50 percent of its standards included in the curriculum. The arts and foreign language would have none.

Table 3.4
Comparative Influence of Various Subjects on the Curriculum

		No Overlap Cut-Point			20% Overlap Cut-Point		
Subject Area	**Number of Standards Identified by Experts**	**Number of Standards that Would Be in Curriculum**	**Percentage of Standards Identified by Experts that Would Be Included in the Curriculum**	**Percentage of Curriculum**	**Number of Standards that Would Be in Curriculum**	**Percentage of Standards Identified by Experts that Would Be Included in the Curriculum**	**Percentage of Curriculum**
Mathematics	9	5	56%	4%	6	67%	4%
Science	16	11	69%	8%	13	81%	8%
History	79	40	51%	30%	48	61%	30%
Language Arts	8	7	88%	5%	8	100%	5%
The Arts	25	0	0%	0%	0	0%	0%
Civics	29	18	62%	14%	24	83%	15%
Economics	10	4	40%	3%	7	70%	4%
Foreign Language	5	0	0%	0%	0	0%	0%
Geography	18	6	33%	5%	6	33%	4%
Health	10	10	100%	8%	10	100%	6%
Physical Education	5	2	40%	2%	4	80%	3%
Technology	5	5	100%	4%	5	100%	3%
Behavioral Studies	4	3	75%	2%	4	100%	3%
Thinking and Reasoning	6	3	50%	2%	6	100%	4%
Work Skills	19	19	100%	15%	19	100%	12%
Total	**248**	**133**		**102%**	**160**		**101%**

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The Dangers of Basing a Curriculum Solely on the Opinions of the General Public

It is important to note that the K–12 curriculum produced if one relies solely on the opinions of the general public (as indicated in this study) would have some strong, unintended, negative consequences. Specifically, some content would be excluded from the curriculum that is vital for students to learn. As described above, the curriculum would be totally void of foreign language and the arts under the assumption of no overlap and 20% overlap. This study also indicates that important standards, even within subject areas that one would assume are highly visible to the general public, might also be excluded from the curriculum. To illustrate, consider the areas of mathematics and science.

The Third International Mathematics and Science Study (TIMSS), briefly discussed in Chapter 1, generally is considered the most comprehensive comparison ever conducted of the achievement of U.S. students with those of students in other countries. In fact, according to Pascal Forgione (1998), Commissioner of the National Center for Educational Statistics, that study represents the "most rigorous international study of schools and student achievement ever conducted. . . .The scope of TIMSS is unprecedented in the annals of educational research. The international project involved the testing of more than one-half million students in mathematics and science at three grade levels in 41 countries" (p. 5).

In addition to revealing that U.S. mathematics and science curricula cover more topics in less depth than those in other countries, the achievement of U.S. 8th- and 12th-grade students in mathematics and science ranked among the lowest across the countries compared. In particular, the TIMSS report on the twelfth-grade results (Takahira, Gonzales, Frase, & Salganik, 1998) notes:

(1) U.S. twelfth graders performed below the international average and among the lowest of the 21 TIMSS countries on the assessment of mathematics general knowledge. U.S. students were outperformed by students in 14 countries, and outperformed students in two countries. Among the 21 TIMSS nations, our students' scores were not significantly different from those in four countries.

(2) U.S. twelfth graders also performed below the international average and among the lowest of the 21 TIMSS countries on the assessment of science knowledge. U.S. students were outperformed by the students in 11 countries, and U.S. students outperformed students in two countries. Our students' scores were not significantly different from those in seven countries.

(3) In all three content areas of advanced mathematics and all five content areas of physics, U.S. physics and advanced mathematics students' performance was among the lowest of the TIMSS nations. (pp. 13-14)

Although mathematics and science educators across the country have used the TIMSS findings as a mandate to make the mathematics and science curricula in the U.S. more rigorous, the curriculum that would be generated using the results of this study would exclude some of the very topics the TIMSS study suggests should be emphasized. To illustrate, Table 3.5 (p. 31) lists

the "advanced" mathematics and science topics on which U.S. students scored unfavorably when compared with students in other countries.

Table 3.5
TIMSS Advanced Mathematics and Science Topics with Poor U.S. Student Performances

Advanced Mathematics Topics
Numbers, Equations, and Functions: Complex numbers and their properties, permutations and combinations; equations and formulas, and patterns, relationships and functions.
Calculus: infinite processes, and change.
Geometry: Basic geometry, coordinate geometry, polygons and circles, and three-dimensional geometry.
Advanced Science Topics
Mechanics: Dynamics of motion; time, space and motion, types of forces; and fluid behavior.
Electricity/Magnetism: Electricity; and magnetism.
Heat: Physical changes; energy types, sources and conversions; heat and temperature; and kinetic theory.
Wave Phenomena: Sound and vibration; light; and wave phenomena.
Modern Physics: Nuclear chemistry; quantum theory and fundamental particles; beyond the solar system; subatomic particles; and relativity theory.

Note: From *Pursuing Excellence. A Study of U.S. Twelfth-Grade Mathematics and Science Achievement in International Context* (pp. 40 and 48) by S. Takahira, P. Gonzales, M. Frase, and L. H. Salganik, 1998 Washington, DC: National Center for Educational Statistics.

Some of the advanced topics in mathematics and science listed in Table 3.5 would not be addressed in the curriculum under the no-overlap assumption. For example, in mathematics, the advanced topics of complex numbers, permutations, functions, basic geometry, coordinate geometry, polygons and circles, and three dimensional geometry are addressed by standards that would not be included in the curriculum. Similarly, in science, much of what is covered in the topics of wave phenomena and modern physics are addressed by standards that would not be included. Even under the 20%-overlap assumption some of the content in Table 3.5 would be excluded from the curriculum. Specifically, much of the calculus and advanced geometry content would be excluded in mathematics. In addition, wave phenomena and much of the content in modern physics would still be excluded in science.

These observations certainly lead one to question the advisability of using the opinions of the American public at large as the primary determiner of what should be included in the K–12 curriculum. A more prudent strategy would likely be to devise a strategy for striking a balance between the suggestions of the general public and the nation's subject-matter experts.

CHAPTER 4

THE OPINIONS OF SUBPOPULATIONS

Limited respondent demographic information was obtained on the survey questionnaires. Respondent demographic data collected included age, educational level, ethnicity, employment status, income level, gender, and state of residence.[8] Not all variables (nor all values of variables) produced findings that were significant in a practical sense in terms of differences regarding what should be included and excluded in the curriculum. The variables that produced the most interpretable results were educational level, age, and income.

Level of Education

For purposes of these analyzes, responses to the education level variable shown in Table 2.4 were dichotomized into the following two categories: (1) respondents whose educational experience included some type of formal study beyond high school (i.e, trade school, technical, or vocational training beyond high school; some college, including community college or junior college; undergraduate college or university degree; graduate school course work or degree) and (2) respondents whose formal educational experience terminated at high school or below. The rank-ordered standards produced by these two subgroups are reported in Appendices D and E, respectively.

Table 4.1
Number of Standards From Various Subject Areas in Top 25
Based on "Definitely" Responses by Respondent Education Level

Subject Area	More than High School	High School or Less
Health	6	10
Language Arts	2	1
Life work	1	6
Tecinology	1	2
Geography	1	1
Civics	3	2
Mathematics	2	1
Science	2	0
U.S. History	4	0
World History	2	1
Working with Others	1	1
Total	**25**	**25**

[8] The specific survey questions that addressed these variables are reported in Table 2.3.

Some substantial differences were found in the responses of these two groups. Although there are many similarities in the top 25 standards identified by the two groups, there also are some interesting differences in the subject areas emphasized. Table 4.1 (p. 32) displays the number of standards from different subject areas that made the top 25 standards for the two groups. Table 4.1 indicates that respondents who had more education included more standards in language arts, civic, mathematics, science, U.S. history, and world history. Those with less education included in the top 25 more standards from health, life work, and technology.

Table 4.2
Standards that Would Be Included in the Curriculum
Based on "Definitely" Responses by Respondent Education Level
(No Overlap Cut-Point)

	Number of Standards and Percentage of Curriculum Using Answers of Respondents			
	Respondents with More Than High School Education		Respondents with High School Education or Less	
Subject Area	Number of Stds.	Percentage of Curriculum	Number of Stds.	Percentage of Curriculum
Mathematics	5	3.8	4	3.2
Science	13	9.8	10	7.9
U.S. History	29	21.8	19	15.1
World History	14	10.5	13	10.3
Language Arts	7	5.3	7	5.6
The Arts	0	0.0	0	0.0
Civics	16	12.0	18	14.3
Economics	4	3.0	5	4.0
Foreign Language	0	0.0	0	0.0
Geography	5	3.8	6	4.8
Health	10	7.5	10	7.9
Physical Education	2	1.5	3	2.4
Technology	2	1.5	5	4.0
Behavioral Studies	3	2.3	4	3.2
Thinking and Reasoning	4	3.0	3	2.4
Working With Others	5	3.8	5	4.0
Self-Regulation	6	4.5	6	4.8
Life Work	8	6.0	8	6.3
Total	**133***	**100.1%**	**126***	**100.2%**

* The difference in numbers of standards that would be included in the curriculum are due to the differing amounts of time required to address individual standards. (See discussion of time in Chapter 1.)

As can be seen in table 4.2 (p. 33), if a curriculum were designed based on the opinions of Americans with a formal educational background that goes beyond high school, it would include more standards in mathematics, science, world history, and thinking and reasoning. Conversely, the curriculum would include fewer standards in civics, economics, geography, physical education, technology, and behavioral studies.

Table 4.3
Standards From Core Subject Areas
that Would Be Included in the Curriculum
Based on "Definitely" Responses by Respondent Education Level
(No Overlap Cut-Point Assumption)

Subject Area	More Than High School	High School or Less	Both Groups Combined
Mathematics	5	4	5
Science	13	10	11
History (U.S. & World)	43	32	39
Language Arts	7	7	7
Geography	5	6	6
Total	**73**	**59**	**68**

Table 4.3 compares the relative emphasis on what might be considered "core academic subjects" —mathematics, science, history (U.S. and world), language arts, and geography—for these two groups based on the no-overlap assumption. This table shows that the ranking of standards using the responses of U.S. adults with more than a high school education produces a curriculum with more standards from the core subject areas (73 standards) than does the ranking of standards (59 standards) using responses from those whose formal education terminates at the high school level. In addition, the curriculum produced using the responses of those with more than a high school education includes more standards from the core subject areas than that produced by aggregating the responses of both groups (i.e., 73 versus 68).

Age

A second demographic variable that was used to disaggregate the data was age of respondents. For the purposes of these analyses, responses to the age variable shown in Table 2.3 were dichotomized into the following categories: (1) respondents 45 years of age or older, and (2) respondents less than 45 years old. The rank-ordered standards for these two subgroups of respondents are reported in Appendices F and G, respectively.

Again, there is considerable similarity between the two listings of individual standards; there are also some interesting differences in the content areas emphasized. Table 4.4 (p. 35) shows the number of standards from different subject areas that are included in the top 25 standards for the two groups.

Table 4.4
Top 25 Standards by Subject Area Based on "Definitely" Responses by Respondent Age Group

Subject Area	45 or Older	Younger Than 45
Health	9	8
Language Arts	1	1
Life Work	6	4
U.S. History	3	3
Geography	1	1
Civics	3	0
Technology	1	2
Mathematics	1	1
World History	0	3
Science	0	2
Totals	**25**	**25**

An analysis of the top 25 standards from the two groups indicates that older respondents appear to value health, life work, and civics more than younger respondents do. Younger respondents appear to emphasize technology, mathematics, world history, and science more than older respondents do. Again, however, the differences in the top 25 standards identified by these two groups must be interpreted with caution.

Table 4.5 (p. 36) shows the results of an analysis of the number of standards from various subject areas that would be included in the curriculum for both age groups when the limitations of time are considered under the no-overlap assumption.

The patterns of preferences for older and younger respondents appear much more similar when one considers all standards that would be included in the curriculum. As Table 4.5 illustrates, the two groups of respondents identified an equal number of standards that address health, language arts, life work, working with others, self-regulation, physical education, and behavioral studies. Older respondents included more standards in U.S. history, geography, civics, and economics. Younger respondents included more standards in technology, mathematics, world history, science, and thinking and reasoning.

Table 4.6 (p.37) lists the number of standards that would be included from the core subject areas for both groups under the no-overlap assumption. Again, the similarities between the two subgroups are more striking than the differences. However, whereas the curriculum organized around the opinions of respondents 45 or older would include more standards in history and geography, the curriculum organized around the opinions of respondents less than 45 would include more mathematics and science standards.

Table 4.5
Standards that Would Be Included in the Curriculum
Based on "Definitely" Responses by Respondent Age Group
(No Overlap Cut-Point Assumption)

Subject Area	45 or Older	Under 45
Health	10	10
Language Arts	7	7
Life Work	8	8
U.S. History	29	22
Geography	7	3
Civics	18	16
Technology	3	5
Mathematics	4	6
Working with Others	5	5
World History	12	14
Self-Regulation	6	6
Science	9	12
Physical Education	2	2
Economics	5	4
Thinking and Reasoning	3	4
Behavioral Studies	3	3
Historical Understanding	1	0
Totals	**132***	**127***

* The difference in numbers of standards that would be included in the curriculum are due to the differing amounts of time required to address individual standards.

Table 4.6
Standards from Core Subject Areas that Would Be Included in the Curriculum Based on "Definitely" Responses by Respondent Age Group (No Overlap Cut-Point Assumption)

Subject Area	45 or Older	Less Than 45	Both Groups Combined
Mathematics	4	6	5
Science	9	12	11
History (U.S. and World)	41	36	39
Language Arts	7	7	7
Geography	7	3	6
Total	**68**	**64**	**68**

Income

Income was the third variable used to study responses of subgroups within the total population. For the purposes of these analyses, the responses to the income variable were dichotomized into the following categories: (1) $50,000 or more and (2) less than $50,000. The rank-ordered standards produced by these two groups are reported in Appendices H and I, respectively.

Table 4.7 compares the top 25 standards by subject area for respondents with income of $50,000 or more and respondents with income less than $50,000. Respondents with an income of $50,000 or more appear to value language arts, U.S. and world history, geography, science, and civics more than respondents who earn less than $50,000 annually. The less affluent respondents appear to favor health and life-work skills.

Table 4.7
Top 25 Standards by Subject Area Based on "Definitely" Responses by Respondent Income Level

Subject Area	50K or More	Less Than 50K
Health	5	9
Language Arts	4	1
Technology	1	2
U.S. History	3	2
Geography	2	1
Science	2	0
World History	1	2
Life Work	2	6
Civics	4	1
Mathematics	1	1
Total	**25**	**25**

Table 4.8 shows the results of an analysis of the number of standards that would be included in the curriculum for both groups when the limitations of time are considered under the no-overlap assumption.

Table 4.8
Standards that Would Be Included in the Curriculum
Based on "Definitely" Responses by Respondent Income Level
(No Overlap Assumption)

Subject Area	50K or More	Less Than 50K
Language Arts	6	7
Health	10	10
Technology	3	5
U.S. History	22	28
Geography	6	5
Science	13	11
World History	12	13
Life Work	8	8
Civics	16	16
Mathematics	5	5
Thinking & Reasoning	4	3
Working with Others	4	5
Self-Regulation	6	6
Economics	4	4
Physical Education	2	2
Behavioral Studies	3	3
Total	**124***	**131***

* The differences in numbers of standards that would be included in the curriculum are due to the differing amounts of time required to address individual standards.

Again, when all standards that would be included in the curriculum are considered, the responses of these two subpopulations are more similar than different. Respondents with an income of $50,000 or more exhibit slight preferences in the areas of geography, science, and thinking and reasoning; whereas respondents with an income of less than $50,000 exhibit slight preferences for language arts, technology, U.S. history, world history, and working with others. These similarities in responses are also reflected in the number of standards that would be included in the curriculum under the no-overlap assumption. These are shown in Table 4.9 (p.39).

The most salient difference between the two subgroups appears to be the preference for science for those with an income of $50,000 or more, and the preference for history for those with an income of less than $50,000.

Table 4.9
Standards from Core Subject Areas that Would Be Included in the Curriculum Based on "Definitely" Responses by Respondent Income Level (No Overlap Cut-Point Assumption)

Subject Area	50K or more	Less than 50K	Both Groups Combined
Mathematics	5	5	5
Science	13	11	11
History (U.S. and World)	36	41	39
Language Arts	6	7	7
Geography	6	5	6
Total	**66**	**69**	**68**

Education, Age, and Income

Thus far, the three demographic variables of education, age, and income have been discussed separately. One might infer from the independent discussions of the preferences of respondents at different education, age, and income levels that the responses from the various subpopulations appear more similar than different. Although this is generally accurate, it is also true that basing a curriculum on the opinions of various subgroups would generate educational systems that have some differences that for all practical purposes are significant. Table 4.10 (p. 40) summarizes the numbers of standards by subject area in the top 25, using the responses of the various subgroups examined.

Table 4.10 shows that standards from the arts, economics, foreign language, physical education, behavioral studies, thinking and reasoning, and self-regulation are not included in the top 25 standards ranked by highest percentage of "definitely" responses. There are noteworthy differences in the number of standards included in the top 25 for the various subgroups in the areas of U.S. history, world history, health, and life work. Finally, there is considerable similarity in the frequency of standards included in the top 25 for the subject areas of mathematics, geography, and technology; no group differed by more than one in the number of standards included.

However, within those subject areas for which a similar number of standards were identified within the top 25, there were some interesting differences. To illustrate, consider the subject area of mathematics, for which 1–2 standards were included in the top 25 based on analyzes of the responses of each of the subgroups examined in this report. Table 4.11 (p. 41) shows the standard or standards included in the top 25 based on the responses of different subgroups. As Table 4.11 shows, different mathematics standards were considered most important by different subgroups.

Some interesting patterns also are found when the number of standards that would be included in the curriculum, considering the limitation of time under the no-overlap assumption, are compared from subgroup to subgroup. Table 4.12 (p. 41) shows that there are many similarities in the pattern of responses across subgroups.

Table 4.10
Top 25 Standards by Subject Area
by Respondent Education, Age, and Income Level

Subject Area	Education		Age		Income	
	More than High School	High School or Less	45 or Older	Under 45	50K or More	Less than 50K
Mathematics	2	1	1	1	1	1
Science	2	0	0	2	2	0
U.S. History	4	0	3	3	3	2
World History	2	1	0	3	1	2
Language Arts	2	1	1	1	4	1
The Arts	0	0	0	0	0	0
Civics	3	2	3	0	4	1
Economics	0	0	0	0	0	0
Foreign Language	0	0	0	0	0	0
Geography	1	1	1	1	2	1
Health	6	10	9	8	5	9
Physical Education	0	0	0	0	0	0
Technology	1	2	1	2	1	2
Behavioral Studies	0	0	0	0	0	0
Thinking and Reasoning	0	0	0	0	0	0
Working with Others	1	1	0	0	0	0
Self-Regulation	0	0	0	0	0	0
Life Work	1	6	6	4	2	6
Totals	**25**	**25**	**25**	**25**	**25**	**25**

Table 4.11
Mathematics Standards in the Top 25 Based on "Definitely" Responses By Respondent Education, Age, and Income Level

	Education		Age		Income	
Topic of Mathematics Standard	More than High School	High School or Less	45 or Older	Under 45	50K or More	Less than 50K
Measurement		X	X			X
General Nature of Mathematics	X				X	
Computation	X					

Table 4.12
Number of Standards that Would Be Included in the Curriculum Based on "Definitely" Responses by Respondent Education, Age, and Income Level (No Overlap Cut-Point Assumption)

Subject Area	Education		Age		Income	
	More than High School	High School or Less	45 or Older	Under 45	50K or More	Less than 50K
Mathematics	5	4	4	6	5	5
Science	13	10	9	12	13	11
U.S. History	29	19	29	22	22	28
World History	14	13	12	14	12	13
Language Arts	7	7	7	7	6	7
The Arts	0	0	0	0	0	0
Civics	16	18	18	16	16	16
Economics	4	5	5	4	4	4
Foreign Language	0	0	0	0	0	0
Geography	5	6	7	3	6	5
Health	10	10	10	10	10	10
Physical Education	2	3	2	2	2	2
Technology	2	5	3	5	3	5
Behavioral Studies	3	4	3	3	3	3
Thinking and Reasoning	4	3	3	4	4	3
Working with Others	5	5	5	5	4	5
Self-Regulation	6	6	6	6	6	6
Life Work	8	8	8	8	8	8
Totals	**133***	**126***	**131***	**127***	**124***	**131***

* The difference in numbers of standards that would be included in the curriculum are due to the differing amounts of time required to address individual standards.

Finally, the number of standards that would be included in the curriculum by the various subpopulations for the core subject areas are reported in Table 4.13. The number of standards from core subject areas that would be included in the curriculum range from a high of 73 to a low of 59. Notable differences across subgroups are found in the areas of science, history, and geography.

Table 4.13
Standards from Core Subject Areas that Would Be Included in the Curriculum Based on "Definitely" Responses by Respondent Education, Age, and Income (No Overlap Cut-Point Assumption)

Subject Area	Education		Age		Income	
	More than High School	High School or Less	45 or Older	Under 45	50K or More	Less than 50K
Mathematics	5	4	4	6	5	5
Science	13	10	9	12	13	11
History (U.S. and World)	43	32	41	36	36	41
Language Arts	7	7	7	7	6	7
Geography	5	6	7	3	6	5
Total	**73**	**59**	**68**	**64**	**66**	**69**

Educational Goals of Respondents

In addition to questions that address demographic variables, each survey contained three questions that addressed the overall goals of education:

1. A main goal of education should be to provide knowledge that helps individual students obtain meaningful employment.
2. A main goal of education should be to provide knowledge that helps individual students have a well-rounded, productive life.
3. A main goal of education should be to provide knowledge that allows our country to acquire and maintain a competitive edge.

Again, the scale used for these questions involved the following response options: *definitely, probably, probably not, and definitely not*. Table 4.14 (p. 43) indicates that there were some notable differences in the opinions of respondents as to the relative importance of these three educational goals.

Table 4.14
Responses to Questions About the Goal of Education

		All Surveys Combined n=2553
Employment	Definitely	2009=78.72%
	Probably not or definitely not	72=2.82%
Well Rounded	Definitely	2270=88.95%
	Probably not or definitely not	127=4.98%
Competitive Edge	Definitely	1497=58.66%
	Probably not or definitely not	261=10.23%

Table 4.14 shows that nearly 90% of Americans surveyed believe that a goal of K–12 education should be to produce well-rounded individuals; nearly 80% believe that K–12 education should increase the probability that students gain employment after graduation, and nearly 60% believe that a goal of K–12 education should be to ensure a competitive edge for the United States. The reported differences between all combinations of respondent percentages (for definite responses) represent true differences of opinion at the 95% confidence level.

Table 4.14 also illustrates that there are some differences among respondents reporting that the three educational goals identified should "probably not" or should "definitely not" be a goal of K–12 education. As Table 4.14 indicates, 10.23% of subjects responded that maintaining a competitive edge should "probably not" or should "definitely not" be a goal of K–12 education. However, only 4.98% indicated that a well-rounded education should "probably not" or "definitely not" be a goal of education, and only 2.82% indicated that employment should "probably not" or "definitely not" be a goal of education. It should be noted that these percentages cannot be considered significant at the .05 level if one uses the tolerance tables reported in Chapter 2.

To obtain another perspective on the preferences of respondents relative to the three goals for education, the data also were analyzed for those respondents who exhibited a clear preference among goals. Since any one respondent could have rated all three purposes as "definitely" a goal of K–12 education, a useful way of looking at the data might be to consider only those respondents who had a clear preference for one educational goal over the others. Table 4.15 (p. 44) indicates that 481 respondents (or 18.8 percent of the total sample of respondents) demonstrated a preference for one goal over the other two. Of these, 337 indicated a preference for the goal of helping students lead well-rounded lives, 103 for the goal of helping students obtain meaningful employment, and only 41 for the goal of helping our country to acquire and maintain a competitive edge. This is consistent with the previous conclusion that American adults support the goal of education fostering well-rounded individuals more strongly than they support the goals of preparing students for employment or using K–12 education to obtain or maintain a national competitive edge.

Table 4.15
Preferences for Various Educational Goals

	Frequency	Percentage of Those Exhibiting a Preference	Percentage of All Respondents
Employment	103	21.4%	4.0%
Well Rounded	337	70.1%	13.2%
Competitive Edge	41	8.5%	1.6%
Total	**481**	**100.0%**	**18.8%**

Logically, the next question to address would be, What are the differences in the ranking of standards between those respondents with differing preferences relative to the goals of education? However, it was concluded that the number of respondents with clear preferences (i.e., 481) was too small to warrant the analyses of the data from this perspective.

CHAPTER 5

ANALYSIS OF "DEFINITELY NOT" RESPONSES

Chapters 3 and 4 reported the results of analyzing the data using the response category of "definitely" as the indicator of respondents' opinions. This response category is considered the strongest indicator of what respondents believe should be included in a K–12 curriculum. Conversely, it is arguably the case that the "definitely not" response category is the best indicator of what respondents believe should *not* be included in the curriculum. This chapter reports the findings and conclusions reached as a result of analyzing the "definitely not" category data.

General Findings

Appendix J lists the 248 standards ranked according to the percentage of "definitely not" responses. For comparison purposes, the percentage of "definitely" responses is also included in the appendix. It is certainly noteworthy that, overall, some percentage of respondents provided a rating of "definitely not" for every one of the standards in the database, indicating that there was some level of objection to virtually every piece of content identified by subject-matter experts. However, it is important to note that the percentages of "definitely not" responses were extremely small for the vast majority of the standards.

Table 5.1
Levels of "Definitely Not" Responses

	Frequency	Percentage of Total Number of Standards
≥35%	0	.00%
≥30%	2	.81%
≥25%	3	1.21%
≥20%	6	2.42%
≥15%	11	4.44%
≥10%	22	8.87%
≥9%	26	10.48%
≥8%	30	12.10%
≥7%	34	13.71%
≥6%	41	16.53%
≥5%	49	19.76%
≥4%	57	22.98%
≥3%	77	31.05%
≥2%	118	47.58%
≥1%	198	79.84%
>0%	248	100.00%

As Table 5.1 (p. 45) shows, five percent or more of respondents answered "definitely not" relative to only 19.76 percent of the standards; ten percent or more answered "definitely not" to only 8.87 percent of the standards, and 20 percent or more answered "definitely not" to only 2.42 percent of the standards. Given the large percentage of standards with a relatively low percentage of "definitely not" responses, it was determined that the most accurate picture of the "definitely not" opinions across the various subject areas would be obtained by considering only those standards with a percentage of "definitely not" responses greater than or equal to a cut-off point of five percent. Table 5.2 summarizes the number of standards within each subject area that had five percent or more "definitely not" responses.

Table 5.2
Standards in the Various Subject Areas
Identified as "Definitely Not" by Five Percent or More of Respondents

Subject Area	Number of Standards in Subject Area	Number of Standards Identified as "Definitely Not" by Five Percent or More of Respondents	Percentage of Standards With a "Definitely Not" Response
World History	46	23	50.00
The Arts	25	21	84.00
Foreign Language	5	2	40.00
Science	16	1	6.25
Geography	18	1	5.56
Physical Education	5	1	20.00

The vast majority of standards with five percent or more "definitely not" responses are from the subject areas of world history and the arts, with world history having the most. However, these "definitely not" standards represent 84 percent of the total number of standards in the arts and 50 percent of the total number of standards in world history. This result corroborates the findings discussed in Chapters 3 and 4: There is little support for mandating instruction in the arts and a fair amount of sentiment against incorporating this content area into a K–12 curriculum.

Analysis by Subpopulations

As is the case with the "definitely" responses, the "definitely not" responses were analyzed relative to the following subpopulations:

(1) respondents with more than a high school education versus those with a high school education or less

(2) respondents 45 or older versus those younger than 45

(3) respondents whose income is $50,000 or more versus those whose income is less than $50,000

The standards that received a "definitely not" response for these subgroups are listed in Appendices K through P. Table 5.3 compares the number of standards in each subject area with five percent or more "definitely not" responses for each of the subpopulations mentioned above.

Table 5.3
Number of Standards Within Subject Areas Identified as "Definitely Not" by Five Percent or More of Respondents by Subpopulation

Subject Area	More Than High School	High School or Less	45 or Older	Less Than 45	50K or More	Less Than 50K
	N	N	N	N	N	N
The Arts	18	24	24	19	17	25
World History	11	27	25	20	17	24
Foreign Language	2	3	2	2	3	2
Science	1	1	1	1	1	1
Geography	1	2	0	1	0	1
Physical Education	1	1	1	1	1	1
Thinking & Reasoning	0	1	0	0	0	0
Civics	0	1	1	0	0	1

As Table 5.3 shows, the pattern of responses across various subgroups is relatively consistent. Respondents from the various subgroups had similar reactions to the standards in foreign language, science, geography, physical education, thinking and reasoning, and civics. However, there are some noteworthy differences between respondents' reactions to the arts and world history. Respondents with more than a high school education, those under 45 years of age, and those earning $50,000 or more were somewhat more positive toward the arts than other subgroups. A similar pattern can be observed relative to the world history standards.

CHAPTER 6

CONCLUSIONS AND NEXT STEPS

This report summarizes the findings of a survey of the American public's opinions as to the necessity of incorporating into the K–12 curriculum those standards identified by national groups of subject-matter experts. It is the first collective rating of K–12 standards across disciplines. The findings suggest that although the American public believes that most of the content areas traditionally viewed as components of the United States' public education system have a place in the nation's K–12 curriculum, they also believe that these areas should not be equally emphasized. Some differences are noted in preferences relative to specific standards and content areas for respondent subgroups created on the basis of education level, age, and income level; nonetheless, there are far more similarities among the views of these subgroups than differences.

This survey offers a number of new insights that can help guide curriculum developers as they work to refine existing K–12 curricula or to develop new curricula based on these standards. The findings suggest those content areas that should be emphasized as well as standards that might be selected within content areas. In addition, the survey results point to a number of standards that should be virtually ignored in the view of the American public.

In addition to providing ratings for each of the standards included in the McREL standards database, this report also offers guidance in creating a comprehensive curriculum given the constraints of "available" instructional time in a typical K–12 education system. A general process for estimating the number of standards that can be covered in 13 years of schooling is offered. The assumptions made in this report about education systems and how the selection of standards might be guided are only illustrative. Curriculum developers will need to make similar assumptions based on the context of their local systems. In addition, the estimation process involved in conducting a time audit will be much improved by a careful analysis of the amount of time required to teach various standards.

Finally, the findings related to the differing opinions of various subgroups can be used to make minor adjustments in the selection of standards to be addressed based on the general education level, age, and income level of the local community in question.

Certainly this study is only a beginning step in helping educators design standards-based education systems in their communities. As always, the utility of the findings are limited by the resources available, the study design choices made, and the survey population targeted. Nevertheless, the data sets provided in the appendices to this report offer a rich set of information that can be analyzed further to guide a host of specific state and local curriculum-related decisions. Beyond that, it is clear that it would now be beneficial to engage the national groups that developed the content-specific standards in a unified discussion of how the individual sets of standards might be effectively combined to create strong, integrated K–12 curricula in communities across the nation. The conversation might begin with the simple question, Which of the standards identified in a discipline are essential and which could be viewed as optional? The conversation might conclude with the more complex question, Given the time available to educate children, given the public's view that all children should have access to a quality

education, as well as and the general goal of providing a "well-rounded" educational experience, what are the options for selecting standards across discipline areas?

It is McREL's hope that this report will stimulate the thinking of America's educators, guide their selection of educational content, and set the stage for a discussion among the nation's content experts and education leaders regarding the future shape of American education.

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APPENDIX A
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FOR COMPREHENSIVE REVIEW OF SUBJECT AREAS

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APPENDIX B
McREL *COMPENDIUM* STANDARDS

Standards for Mathematics

1. Effectively uses a variety of strategies in the problem-solving process
2. Understands and applies basic and advanced properties of the concept of numbers
3. Uses basic and advanced procedures while performing the process of computation
4. Understands and applies basic and advanced properties of the concept of measurement
5. Understands and applies basic and advanced properties of the concepts of geometry
6. Understands and applies basic and advanced concepts of data analysis and distributions
7. Understands and applies basic and advanced concepts of probability and statistics
8. Understands and applies basic and advanced properties of functions and algebra
9. Understands the general nature and uses of mathematics

Standards for Science

Earth and Space

1. Understands basic features of the Earth
2. Understands basic Earth processes
3. Understands essential ideas about the composition and structure of the universe and the Earth's place in it

Life Sciences

4. Knows about the diversity and unity that characterize life
5. Understands the genetic basis for the transfer of biological characteristics from one generation to the next
6. Knows the general structure and functions of cells in organisms
7. Understands how species depend on one another and on the environment for survival
8. Understands the cycling of matter and flow of energy through the living environment
9. Understands the basic concepts of the evolution of species

Physical Sciences

10. Understands basic concepts about the structure and properties of matter
11. Understands energy types, sources, and conversions, and their relationship to heat and temperature
12. Understands motion and the principles that explain it
13. Knows the kinds of forces that exist between objects and within atoms

Science and Technology

14. Understands the nature of scientific knowledge
15. Understands the nature of scientific inquiry
16. Understands the scientific enterprise
17. Understands the nature of technological design
18. Understands the interactions of science, technology, and society

Standards for Historical Understanding

1. Understands and knows how to analyze chronological relationships and patterns
2. Understands the historical perspective

Standards for Grades K–4 History

Topic 1 Living and Working Together in Families and Communities, Now and Long Ago

1. Understands family life now and in the past, and family life in various places long ago
2. Understands the history of the local community and how communities in North America varied long ago

Topic 2 The History of Students' Own State or Region

3. Understands the people, events, problems, and ideas that were significant in creating the history of their state

Topic 3 The History of the United States: Democratic Principles and Values and the People From Many Cultures Who Contributed to its Cultural, Economic, and Political Heritage

4. Understands how democratic values came to be, and how they have been exemplified by people, events, and symbols
5. Understands the causes and nature of movements of large groups of people into and within the United States, now and long ago
6. Understands the folklore and other cultural contributions from various regions of the United States and how they helped to form a national heritage

Topic 4 The History of Peoples of Many Cultures Around the World

7. Understands selected attributes and historical developments of societies in Africa, the Americas, Asia, and Europe
8. Understands major discoveries in science and technology, some of their social and economic effects, and the major scientists and inventors responsible for them

Standards for United States History

Era 1 Three Worlds Meet (Beginnings to 1620)

1. Understands the characteristics of societies in the Americas, Western Europe, and West Africa that increasingly interacted after 1450
2. Understands cultural and ecological interactions resulting from early European exploration and colonization

Era 2 Colonization and Settlement (1585-1763)

3. Understands how the early Europeans and Africans interacted with Native Americans in the Americas
4. Understands how political institutions and religious freedom emerged in the North American colonies
5. Understands how the values and institutions of European economic life took root in the colonies and how slavery reshaped European and African life in the Americas

Era 3 Revolution and the New Nation (1754-1820s)

6. Understands the causes of the American Revolution, the ideas and interests involved in shaping the revolutionary movement, and reasons for the American victory
7. Understands how the American Revolution involved multiple movements among the new nation's many groups to reform American society
8. Understands the institutions and practices of government created during the revolution and how these elements were revised between 1787 and 1815 to create the foundation of the American political system

Era 4 Expansion and Reform (1801-1861)

9. Understands the United States territorial expansion between 1801 and 1861, and how it affected relations with external powers and Native Americans
10. Understands how the industrial revolution, the rapid expansion of slavery, and the westward movement changed American lives and led to regional tensions
11. Understands the extension, restriction, and reorganization of political democracy after 1800
12. Understands the sources and character of reform movements in the antebellum period and what the reforms accomplished or failed to accomplish

Era 5 Civil War and Reconstruction (1850-1877)

13. Understands the causes of the Civil War
14. Understands the course and character of the Civil War and its effects on the American people
15. Understands how various reconstruction plans succeeded or failed

Era 6 The Development of the Industrial United States (1870-1900)

16. Understands how the rise of big business, heavy industry, and mechanized farming transformed American society
17. Understands massive immigration after 1870 and how new social patterns, conflicts, and ideas of national unity developed amid growing cultural diversity
18. Understands the rise of the American labor movement and how political issues reflected social and economic changes
19. Understands federal Indian policy and United States foreign policy after the Civil War

Era 7 The Emergence of Modern America (1890-1930)

20. Understands how progressives and others addressed problems of industrial capitalism, urbanization, and political corruption
21. Understands the changing role of the United States in world affairs through World War I
22. Understands how the United States changed between the post-World War I years and the eve of the Great Depression

Era 8 The Great Depression and World War II (1929-1945)

23. Understands the causes of the Great Depression and how it affected American society
24. Understands how the New Deal addressed the Great Depression, transformed American federalism, and initiated the welfare state
25. Understands the origins and course of World War II, the character of the war at home and abroad, and its reshaping of the U.S. role in world affairs

Era 9 Postwar United States (1945 to early 1970s)

26. Understands the economic boom and social transformation of post-World War II America
27. Understands how the legacy of the New Deal in the post World War II period
28. Understands the Cold War and the Korean and Vietnam conflicts in domestic and international politics
29. Understands the struggle for racial and gender equality and for the extension of civil liberties

Era 10 Contemporary United States (1968 to the present)

30. Understands developments in foreign and domestic policies between the Nixon and Clinton presidencies
31. Understands the major social and economic developments in contemporary America

Standards for World History

Era 1 The Beginnings of Human Society

1. Understands the biological and cultural processes that shaped the earliest human communities
2. Understands the processes that contributed to the emergence of agricultural societies around the world

Era 2 Early Civilizations and the Rise of Pastoral Peoples, 4000-1000 BCE

3. Understands the major characteristics of civilization and the development of civilizations in Mesopotamia, Egypt, and the Indus Valley
4. Understands how agrarian societies spread and new states emerged in the third and second millennium BCE
5. Understands the political, social, and cultural consequences of population movements and militarization in Eurasia in the second millennium BCE

Era 3 Classical Traditions, Major Religions, and Giant Empires, 1000 BCE-300 CE

6. Understands technological and cultural innovation and change from 1000 to 600 BCE
7. Understands how Aegean civilization emerged and how interrelations developed among peoples of the eastern Mediterranean and Southwest Asia from 600 to 200 BCE
8. Understands how major religious and large-scale empires arose in the Mediterranean basin, China, and India from 500 BCE to 300 CE
9. Understands how early agrarian civilizations arose in Mesoamerica

Era 4 Expanding Zones of Exchange and Encounter, 300-1000 CE

10. Understands the Imperial crises and their aftermath in various regions from 300 to 700 CE
11. Understands the causes and consequences of the development of Islamic civilization between the 7th and 10th centuries
12. Understands major developments in East Asia in the era of the Tang Dynasty from 600 to 900 CE
13. Understands the political, social, and cultural redefinitions in Europe from 500 to 1000 CE
14. Understands state-building in the Northeast and West Africa, and the southward migrations of Bantu-speaking peoples
15. Understands the rise of centers of civilization in Mesoamerica and Andean South America in the first millennium CE

Era 5 Intensified Hemispheric Interactions, 1000-1500 CE

16. Understands the maturation of an interregional system of communication, trade, and cultural exchange during a period of Chinese economic power and Islamic expansion
17. Understands the redefinition of European society and culture from 1000 to 1300 CE
18. Understands the rise of the Mongol empire and its consequences for Eurasian peoples from 1200 to 1350
19. Understands the growth of states, towns, and trade in Sub-Saharan Africa between the 11th and 15th centuries
20. Understands patterns of crisis and recovery in Afro-Eurasia between 1300 and 1450
21. Understands the expansion of states and civilizations in the Americas between 1000 and 1500

Era 6 Global Expansion and Encounter, 1450-1770

22. Understands how the transoceanic interlinking of all major regions of the world between 1450 and 1600 led to global transformations
23. Understands how European society experienced political, economic, and cultural transformations in an age of global intercommunication between 1450 and 1750
24. Understands how large territorial empires dominated much of Eurasia between the 16th and 18th centuries
25. Understands the economic, political, and cultural interrelations among peoples of Africa, Europe, and the Americas between 1500 and 1750
26. Understands transformations in Asian societies in the era of European expansion
27. Understands major global trends from 1450 to 1770

Era 7 An Age of Revolutions, 1750-1914

28. Understands the causes and consequences of political revolutions in the late 18th and early 19th centuries
29. Understands the causes and consequences of the agricultural and industrial revolutions from 1700 to 1850
30. Understands how Eurasian societies were transformed in an era of global trade and the emergence of European power from 1750 to 1850
31. Understands patterns of nationalism, state-building, and social reform in Europe and the Americas from 1830 to 1914
32. Understands patterns of global change in the era of Western military and economic domination from 1850 to 1914
33. Understands major global trends from 1750 to 1914

Era 8 The 20th Century

34. Understands global and economic trends in the high period of Western dominance
35. Understands the causes and global consequences of World War I
36. Understands the search for peace and stability throughout the world in the 1920s and 1930s
37. Understands the causes and global consequences of World War II
38. Understands how new international power relations took shape in the context of the Cold War and how colonial empires broke up
39. Understands the promises and paradoxes of the second half of the 20th century

Standards for Language Arts

Writing

1. Demonstrates competence in the general skills and strategies of the writing process
2. Demonstrates competence in the stylistic and rhetorical aspects of writing
3. Writes with a command of the grammatical and mechanical conventions of composition
4. Effectively gathers and uses information for research purposes

Reading

5. Demonstrates competence in the general skills and strategies of the reading process
6. Demonstrates competence in general skills and strategies for reading literature
7. Demonstrates competence in the general skills and strategies for reading information
8. Demonstrates competence in applying the reading process to specific types of literary texts
9. Demonstrates competence in applying the reading process to specific types of informational texts
10. Demonstrates competence in using different information sources, including those of a technical nature, to accomplish specific tasks

Listening and Speaking

11. Demonstrates competence in speaking and listening as tools for learning

Language

12. Demonstrates an understanding of the nature and function of the English language

Literature

13. Demonstrates a familiarity with selected literary works of enduring quality

Standards for Geography

The World in Spatial Terms

1. Understands the characteristics and uses of maps, globes, and other geographic tools and technologies
2. Knows the location of places, geographic features, and patterns of the environment
3. Understands the characteristics and uses of spatial organization of Earth's surface

Places and Regions

4. Understands the physical and human characteristics of place
5. Understands the concept of regions
6. Understands that culture and experience influence people's perceptions of places and regions

Physical Systems

7. Knows the physical processes that shape patterns on Earth's surface
8. Understands the characteristics of ecosystems on Earth's surface

Human Systems

9. Understands the nature, distribution, and migration of human populations on Earth's surface

10. Understands the nature and complexity of Earth's cultural mosaics
11. Understands the patterns and networks of economic interdependence on Earth's surface
12. Understands the patterns of human settlement and their causes
13. Understands the forces of cooperation and conflict that shape the divisions of Earth's surface

Environment and Society

14. Understands how human actions modify the physical environment
15. Understands how physical systems affect human systems
16. Understands the changes that occur in the meaning, use, distribution, and importance of resources

Uses of Geography

17. Understands how geography is used to interpret the past
18. Understands global development and environmental issues

Standards for the Arts

Art Connections

1. Understands connections among the various art forms and other disciplines

Dance

1. Identifies and demonstrates movement elements and skills in performing dance
2. Understands choreographic principles, processes, and structures
3. Understands dance as a way to create and communicate meaning
4. Applies critical and creative thinking skills in dance
5. Understands dance in various cultures and historical periods
6. Understands connections between dance and healthful living

Music

1. Sings, alone and with others, a varied repertoire of music
2. Performs on instruments, alone and with others, a varied repertoire of music
3. Improvises melodies, variations, and accompaniments
4. Composes and arranges music within specified guidelines
5. Reads and notates music
6. Knows and applies appropriate criteria to music and music performances
7. Understands the relationship between music and history and culture

Theatre

1. Demonstrates competence in writing scripts
2. Uses acting skills
3. Designs and produces informal and formal productions
4. Directs scenes and productions
5. Understands how informal and formal theatre, film, television, and electronic media productions create and communicate meaning
6. Understands the context in which theatre, film, television, and electronic media are performed today as well as in the past

Visual Arts

1. Understands and applies media, techniques, and processes related to the visual arts
2. Knows how to use the structures (e.g., sensory qualities, organizational principles, expressive features) and functions of art
3. Knows a range of subject matter, symbols, and potential ideas in the visual arts
4. Understands the visual arts in relation to history and cultures
5. Understands the characteristics and merits of one's own artwork and the artwork of others

Standards for Civics

What Is Government and What Should It Do?

1. Understands ideas about civic life, politics, and government
2. Understands the essential characteristics of limited and unlimited governments
3. Understands the sources, purposes, and functions of law and the importance of the rule of law for the protection of individual rights and the common good
4. Understands the concept of a constitution, the various purposes that constitutions serve, and the conditions that contribute to the establishment and maintenance of constitutional government
5. Understands the major characteristics of systems of shared powers and of parliamentary systems
6. Understands the advantages and disadvantages of federal, confederal, and unitary systems of government
7. Understands alternative forms of representation and how they serve the purposes of constitutional government

What Are the Basic Values and Principals of American Democracy?

8. Understands the central ideas of American constitutional government and how this form of government has shaped the character of American society
9. Understands the importance of Americans sharing and supporting certain values, beliefs, and principles of American constitutional democracy
10. Understands the roles of voluntarism and organized groups in American social and political life
11. Understands the role of diversity in American life and the importance of shared values, political beliefs, and civic beliefs in an increasingly diverse American society
12. Understands the relationships among liberalism, republicanism, and American constitutional democracy
13. Understands the character of American political and social conflict and factors that tend to prevent or lower its intensity
14. Understands issues concerning the disparities between ideals and reality in American political and social life

How Does the Government Established by the Constitution Embody the Purposes, Values, and Principles of American Democracy?

15. Understands how the United States Constitution grants and distributes power and responsibilities to national and state government and how it seeks to prevent the abuse of power

16. Understands the major responsibilities of the national government for domestic and foreign policy, and understands how government is financed through taxation
17. Understands issues concerning the relationship between state and local governments and the national government and issues pertaining to representation at all three levels of government
18. Understands the role and importance of law in the American constitutional system and issues regarding the judicial protection of individual rights
19. Understands what is meant by "the public agenda," how it is set, and how it is influenced by public opinion and the media
20. Understands the roles of political parties, campaigns, elections, and associations and groups in American politics
21. Understands the formation and implementation of public policy

What is the Relationship of the United States to Other Nations and to World Affairs?

22. Understands how the world is organized politically into nation-states, how nation-states interact with one another, and issues surrounding U.S. foreign policy
23. Understands the impact of significant political and nonpolitical developments on the United States and other nations

What Are the Roles of the Citizen in American Democracy?

24. Understands the meaning of citizenship in the United States, and knows the requirements for citizenship and naturalization
25. Understands issues regarding personal, political, and economic rights
26. Understands issues regarding the proper scope and limits of rights and the relationships among personal, political, and economic rights
27. Understands how certain character traits enhance citizens' ability to fulfill personal and civic responsibilities
28. Understands how participation in civic and political life can help citizens attain individual and public goals
29. Understands the importance of political leadership, public service, and a knowledgeable citizenry in American constitutional democracy

Standards for Economics

1. Understands that scarcity of productive resources requires choices which generate opportunity costs
2. Understands characteristics of different economic systems, economic institutions, and economic incentives
3. Understands the concept of prices and the interaction of supply and demand in a market economy
4. Understands basic features of market structures and exchanges
5. Understands unemployment and income distribution in a market economy
6. Understands the roles government plays in the United States economy
7. Understands aggregate supply and aggregate demand
8. Understands basic concepts of United States fiscal policy and monetary policy
9. Understands how Gross Domestic Product and inflation and deflation provide indications of the state of the economy
10. Understands basic concepts about international economics

Standards for Foreign Language

1. Uses the target language to engage in conversations, express feelings and emotions, and exchange opinions and information
2. Comprehends and interprets written and spoken language on diverse topics from diverse media
3. Presents information, concepts, and ideas to an audience of listeners or readers on a variety of topics
4. Demonstrates knowledge and understanding of traditional ideas and perspectives, institutions, professions, literary and artistic expressions, and other components of target culture
5. Recognizes that different languages use different patterns to communicate and applies this knowledge to the native language

Standards for Health

1. Knows the availability and effective use of health services, products, and information
2. Knows environmental and external factors that affect individual and community health
3. Understands the relationship of family health to individual health
4. Knows how to maintain mental and emotional health
5. Knows essential concepts and practices concerning injury prevention and safety
6. Understands essential concepts about nutrition and diet
7. Knows how to maintain and promote personal health
8. Knows essential concepts about the prevention and control of disease
9. Understands aspects of substance use and abuse
10. Understands the fundamental concepts of growth and development

Standards for Physical Education

1. Uses a variety of basic and advanced movement forms
2. Uses movement concepts and principles in the development of motor skills
3. Understands the benefits and costs associated with participation in physical activity
4. Understands how to monitor and maintain a health-enhancing level of physical fitness
5. Understands the social and personal responsibility associated with participation in physical activity

Standards for Behavioral Studies

1. Understands that group and cultural influences contribute to human development, identity, and behavior

2. Understands various meanings of social group, general implications of group membership, and different ways that groups function
3. Understands that interactions among learning, inheritance, and physical development affect human behavior
4. Understands conflict, cooperation, and interdependence among individuals, groups, and institutions

Standards for Lifelong Learning

Thinking and Reasoning

1. Understands and applies basic principles of presenting an argument
2. Understands and applies basic principles of logic and reasoning
3. Effectively uses mental processes that are based on identifying similarities and dissimilarities (compares, contrasts, classifies)
4. Understands and applies basic principles of hypothesis testing and scientific inquiry
5. Applies basic trouble-shooting and problem-solving techniques
6. Applies decision-making techniques

Working With Others

1. Contributes to the overall effort of a group
2. Uses conflict-resolution techniques
3. Works well with diverse individuals and in diverse situations
4. Displays effective interpersonal communication skills
5. Demonstrates leadership skills

Self-Regulation

1. Sets and manages goals
2. Performs self-appraisal
3. Considers risks
4. Demonstrates perseverance
5. Maintains a healthy self-concept
6. Restrains impulsivity

Life Work

1. Makes effective use of basic tools
2. Understands the characteristics and uses of basic computer hardware, software, and operating systems
3. Uses basic word processing, spreadsheet, database, and communication programs
4. Manages money effectively
5. Pursues specific jobs
6. Makes general preparation for entering the work force
7. Makes effective use of basic life skills
8. Displays reliability and a basic work ethic
9. Operates effectively within organizations

APPENDIX C
OVERALL FINDINGS

	Subject Area	Standard	Percent	N
1	Health	(9) Understands aspects of substance use and abuse	89.60	611
2	Language Arts	(3) Uses grammatical and mechanical conventions in written compositions	83.10	485
3	Health	(3) Understands the relationship of family health to individual health	80.40	551
4	Health	(8) Knows essential concepts about the prevention and control of disease	79.40	546
5	Technology	(2) Knows the characteristics and uses of computer software programs	76.50	504
6	Health	(4) Knows how to maintain mental and emotional health	76.00	521
7	Geography	(1) Understands the characteristics and uses of maps, globes, and other geographic tools and technologies	74.20	444
8	World History	(41) Understands the causes and global consequences of World War II	72.70	487
9	Life Work	(7) Displays reliability and a basic work ethic	72.20	423
10	Life Work	(8) Operates effectively within organizations	72.20	423
11	Health	(1) Knows the availability and effective use of health services, products, and information	72.10	495
12	Health	(6) Understands essential concepts about nutrition and diet	71.80	489
13	U.S. History	(6) Understands the causes of the American Revolution, the ideas and interests involved in shaping the revolutionary movement, and reasons for the American victory	71.80	473
14	Life Work	(3) Manages money effectively	71.80	424
15	U.S. History	(13) Understands the causes of the Civil War	71.20	466
16	Health	(5) Knows essential concepts and practices concerning injury prevention and safety	70.90	484
17	Life Work	(5) Makes general preparation for entering the work force	70.90	417
18	Technology	(1) Knows the characteristics and uses of computer hardware and operating systems	70.00	458
19	Health	(10) Understands the fundamental concepts of growth and development	69.15	470*
20	Mathematics	(9) Understands the general nature and uses of mathematics	69.10	468
21	Mathematics	(4) Understands and applies basic and advanced properties of the concepts of measurement	69.10	466
22	Life Work	(4) Pursues specific jobs	68.90	407
23	Science	(1) Understands basic features of the Earth	68.90	458
24	Health	(7) Knows how to maintain and promote personal health	68.60	468
25	Civics	(24) Understands the meaning of citizenship in the United States, and knows the requirements for citizenship and naturalization	68.50	401
26	World History	(40) Understands the search for peace and stability throughout the world in the 1920s and 1930s	68.40	458

Note: The number in parentheses is the number of the standard in the McREL database.
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	Subject Area	Standard	Percent	N
27	Civics	(31) Understands the sources, purposes, and [illegible]tions of law and the importance of the rule of law for the protection of individual rights and the common good	68.30	404
28	Life Work	(61) Makes effective use of basic life skills	68.20	397
29	U.S. History	(23) Understands the causes of the Great Depression and how it affected American society	67.60	446
30	Self-Regulation	(3) Considers risks	67.30	394
31	Working With Others	(3) Works well with diverse individuals and in diverse situations	66.70	386
32	Science	(7) Understands how species depend on one another and on the environment for survival	66.60	439
33	Mathematics	(3) Uses basic and advanced procedures while performing the processes of computation	66.55	451*
34	U.S. History	(25) Understands the causes and course of World War II, the character of the war at home and abroad, and its reshaping of the U.S. role in world affairs	66.40	436
35	Working With Others	(4) Displays effective interpersonal communication skills	66.20	388
36	Civics	(4) Understands the concept of a constitution, the various purposes that constitutions serve, and the conditions that contribute to the establishment and maintenance of constitutional government	65.60	386
37	Language Arts	(7) Demonstrates competence in the general skills and strategies for reading a variety of informational texts	65.45	384*
38	Civics	(1) Understands ideas about civic life, politics, and government	65.20	385
39	Civics	(8) Understands the central ideas of American constitutional government and how this form of government has shaped the character of American society	64.90	383
40	World History	(45) Understands major global trends since Word War II	64.45	430*
41	U.S. History	(7) Understands the impact of the American Revolution on politics, economy, and society	62.80	411
42	Thinking and Reasoning	(5) Applies basic trouble-shooting and problem-solving techniques	62.70	363
43	Language Arts	(1) Demonstrates competence in the general skills and strategies of the writing process	62.65	364*
44	Civics	(15) Understands how the United States Constitution grants and distributes power and responsibilities to national and state government and how it seeks to prevent the abuse of power	62.45	368*
45	Civics	(9) Understands the importance of Americans sharing and supporting certain values, beliefs, and principles of American constitutional democracy	62.40	369
46	Geography	(8) Understands the characteristics of ecosystems on Earth's surface	62.17	364*
47	Language Arts	(4) Gathers and uses information for research purposes	61.30	355
48	World History	(43) Understands how post-World War II reconstruction occurred, new international power relations took shape, and colonial empires broke up	61.10	408*
49	Self-Regulation	(5) Maintains a healthy self-concept	60.80	357

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Subject Area	Standard	Percent	N
50 Health	(2) Knows environmental and external factors that affect individual and community health	60.50	414
51 Mathematics	(1) Uses a variety of strategies in the problem-solving process	60.50	408
52 World History	(44) Understands the search for community, stability, and peace in an interdependent world	60.10	403
53 Language Arts	(2) Demonstrates competence in the stylistic and rhetorical aspects of writing	60.00	351
54 Physical Education	(4) Understands how to monitor and maintain a health-enhancing level of physical fitness	59.83	393*
55 Self-Regulation	(6) Restrains impulsivity	59.20	347
56 Working With Others	(1) Contributes to the overall effort of a group	58.70	337
57 Self-Regulation	(1) Sets and manages goals	58.70	342
58 U.S. History	(2) Understands cultural and ecological interactions among previously unconnected people resulting from early European exploration and colonization	58.60	381
59 Self-Regulation	(2) Performs self-appraisal	58.00	339
60 Thinking and Reasoning	(1) Understands and applies the basic principles of presenting an argument	57.80	335
61 U.S. History	(22) Understands how the United States changed between the post-World War I years and the eve of the Great Depression	57.30	377
62 Physical Education	(5) Understands the social and personal responsibility associated with participation in physical activity	57.20	376
63 Thinking and Reasoning	(3) Effectively uses mental processes that are based on identifying similarities and differences (compares, contrasts, classifies)	57.10	329
64 Economics	(6) Understands the roles government plays in the United States economy	56.85	332*
65 World History	(46) Understands long-term changes and recurring patterns in world history	56.85	380*
66 Geography	(7) Knows the physical processes that shape patterns on Earth's surface	56.77	328*
67 World History	(42) Understands major global trends from 1900 to the end of World War II	56.10	373
68 World History	(39) Understands the causes and global consequences of World War I	56.10	373
69 U.S. History	(4) Understands how political, religious, and social institutions emerged in the North American colonies	55.80	365
70 Civics	(18) Understands the role and importance of law in the American constitutional system and issues regarding the judicial protection of individual rights	55.47	325*
71 Science	(5) Understands the genetic basis for the transfer of biological characteristics from one generation to the next	55.40	360
72 Civics	(11) Understands the role of diversity in American life and the importance of shared values, political beliefs, and civic beliefs in an increasingly diverse American society	55.30	322
73 Civics	(16) Understands the major responsibilities of the national government for domestic and foreign policy, and understands how government is financed through taxation	55.30	324

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	Subject Area	Standard	Percent	N
74	Science	(8) Understands the cycling of matter and flow of energy through the living environment	54.80	356
75	Self-Regulation	(4) Demonstrates perseverance	54.70	321
76	Science	(16) Understands the scientific enterprise	54.60	344
77	Working With Others	(2) Uses conflict-resolution techniques	54.60	317
78	U.S. History	(14) Understands the course and character of the Civil War and its effects on the American people	54.45	353*
79	U.S. History	(24) Understands how the New Deal addressed the Great Depression, transformed American federalism, and initiated the welfare state	54.40	359
80	U.S. History	(10) Understands how the industrial revolution, increasing immigration, the rapid expansion of slavery, and the westward movement changed American lives and led to regional tensions	54.40	355
81	Civics	(2) Understands the essential characteristics of limited and unlimited governments	54.10	319
82	Working With Others	(5) Demonstrates leadership skills	54.00	315
83	Behavioral Studies	(1) Understands that group and cultural influences contribute to human development, identity, and behavior	53.85	346*
84	U.S. History	(8) Understands the institutions and practices of government created during the revolution and how these elements were revised between 1787 and 1815 to create the foundation of the American political system based on the U.S. Constitution and the Bill of Rights	53.70	348
85	U.S. History	(29) Understands the struggle for racial and gender equality and for the extension of civil liberties	53.70	346
86	Life Work	(2) Uses various information sources, including those of a technical nature, to accomplish specific tasks	53.70	314
87	Language Arts	(5) Demonstrates competence in the general skills and strategies of the reading process	53.55	237*
88	Science	(14) Understands the nature of scientific knowledge	53.50	336
89	U.S. History	(16) Understands how the rise of corporations, heavy industry, and mechanized farming transformed American society	53.40	344
90	U.S. History	(27) Understands how the Cold War and conflicts in Korea and Vietnam influenced domestic and international politics	53.20	347
91	Economics	(3) Understands the concept of prices and the interaction of supply and demand in a market economy	53.20	313
92	Life Work	(1) Makes effective use of basic tools	52.60	307
93	U.S. History	(21) Understands the changing role of the United States in world affairs through World War I	52.00	342
94	World History	(35) Understands patterns of nationalism, state-building, and social reform in Europe and the Americas from 1830 to 1914	51.50	342
95	Civics	(20) Understands the roles of political parties, campaigns, elections, and associations and groups in American politics	51.10	300*

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Subject Area	Standard	Percent	N
96 U.S. History	(5) Understands how the values and institutions of European economic life took root in the colonies and how slavery reshaped European and African life in the Americas	50.90	332
97 Civics	(5) Understands the major characteristics of systems of shared powers and of parliamentary systems	50.70	297
98 Science	(3) Understands essential ideas about the composition and structure of the universe and the Earth's place in it	50.70	332
99 Science	(11) Understands energy types, sources, and conversions, and their relationship to heat and temperature	50.60	330
100 Geography	(16) Understands the changes that occur in the meaning, use, distribution, and importance of resources	50.45	296*
101 World History	(26) Understands how the transoceanic interlinking of all major regions of the world between 1450 and 1600 led to global transformations	50.30	331
102 U.S. History	(3) Understands why the Americas attracted Europeans, why they brought enslaved Africans to their colonies, and how Europeans struggled for control of North America and the Caribbean	50.20	326
103 Technology	(4) Understands the nature of technological design	49.90	317
104 Civics	(17) Understands issues concerning the relationship between state and local governments and the national government and issues pertaining to representation at all three levels of government	49.70	290
105 Civics	(29) Understands the importance of political leadership, public service, and a knowledgeable citizenry in American constitutional democracy	49.60	286
106 Civics	(28) Understands how participation in civic and political life can help citizens attain individual and public goals	49.60	286
107 Economics	(5) Understands unemployment, income, and income distribution in a market economy	49.60	290*
108 Behavioral Studies	(2) Understands various meanings of social group, general implications of group membership, and different ways that groups function	49.37	313*
109 Geography	(14) Understands how human actions modify the physical environment	49.23	290*
110 U.S. History	(18) Understands the rise of the American labor movement and how political issues reflected social and economic changes	49.10	320
111 U.S. History	(26) Understands the economic boom and social transformation of post-World War II United States	49.10	318
112 World History	(33) Understands the causes and consequences of the agricultural and industrial revolutions from 1700 to 1850	48.50	318
113 U.S. History	(12) Understands the sources and character of cultural, religious, and social reform movements in the antebellum period	48.30	283*
114 World History	(29) Understands the economic, political, and cultural interrelations among peoples of Africa, Europe, and the Americas between 1500 and 1750	48.30	317
115 Economics	(7) Understands savings, investment, and interest rates	48.20	278
116 World History	(36) Understands patterns of global change in the era of Western military and economic domination from 1850 to 1914	48.00	318
117 Behavioral Studies	(3) Understands that interactions among learning, inheritance, and physical development affect human behavior	47.73	304*

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Subject Area	Standard	Percent	N
118. U.S. History	(9) Understands the United States territorial expansion between 1801 and 1861, and how it affected relations with external powers and Native Americans	47.50	307*
119. Mathematics	(6) Understands and applies basic and advanced concepts of statistics and data analysis	47.45	314*
120. Science	(6) Knows the general structure and functions of cells in organisms	47.40	308
121. Science	(15) Understands the nature of scientific inquiry	47.30	293
122. U.S. History	(31) Understands economic, social, and cultural developments in the contemporary United States	47.30	309
123. U.S. History	(15) Understands how various reconstruction plans succeeded or failed	47.00	304
124. Science	(2) Understands basic Earth processes	46.35	304*
125. U.S. History	(30) Understands developments in foreign and domestic policies between the Nixon and Clinton presidencies	46.30	302
126. Technology	(3) Understands relationships among science, technology, society, and the individual	45.60	296
127. U.S. History	(11) Understands the extension, restriction, and reorganization of political democracy after 1800	45.45	295*
128. Geography	(15) Understands how physical systems affect human systems	45.05	267*
129. Language Arts	(8) Demonstrates competence in speaking and listening as tools for learning	45.03	263*
130. Civics	(26) Understands issues regarding the proper scope and limits of rights and the relationships among personal, political, and economic rights	45.00	262
131. Civics	(25) Understands issues regarding personal, political, and economic rights	45.00	262
132. Technology	(5) Understands the nature and operation of systems	44.80	288
133. World History	(38) Understands reform, revolution, and social change in the world economy in the early century	44.50	287
End of Inclusion in the Curriculum (No Overlap Cut-Point)			
134. U.S. History	(28) Understands domestic policies in the post-World War II period	44.40	289
135. Language Arts	(6) Demonstrates competence in general skills and strategies for reading a variety of literary texts	44.23	254*
136. Economics	(4) Understands basic features of market structures and exchanges	43.70	251*
137. U.S. History	(20) Understands how Progressives and others addressed problems of industrial capitalism, urbanization, and political corruption	43.45	283*
138. Thinking and Reasoning	(2) Understands and applies basic principles of logic and reasoning	43.40	247
139. Mathematics	(2) Understands and applies basic and advanced properties of the concepts of numbers	43.40	291
140. Science	(10) Understands basic concepts about the structure and properties of matter	43.10	277
141. Civics	(21) Understands the formation and implementation of public policy	42.90	248
142. Historical Understanding	(2) Understands the historical perspective	42.70	249*

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Subject Area	Standard	Percent	N
143 Physical Education	(3) Understands the benefits and costs associated with participation in physical activity	41.95	275*
144 Behavioral Studies	(4) Understands conflict, cooperation, and interdependence among individuals, groups, and institutions	41.87	268*
145 Science	(9) Understands the basic concepts of the evolution of species	41.60	264
146 U.S. History	(17) Understands massive immigration after 1870 and how new social patterns, conflicts, and ideas of national unity developed amid growing cultural diversity	41.30	265
147 Thinking and Reasoning	(6) Applies decision-making techniques	41.30	236
148 World History	(27) Understands how European society experienced political, economic, and cultural transformations in an age of global intercommunication between 1450 and 1750	41.00	271*
149 Economics	(2) Understands characteristics of different economic systems, economic institutions, and economic incentives	39.80	230*
150 Physical Education	(2) Uses movement concepts and principles in the development of motor skills	38.83	250*
151 Civics	(7) Understands alternative forms of representation and how they serve the purposes of constitutional government	38.50	220
152 Civics	(22) Understands how the world is organized politically into nation-states, how nation-states interact with one another, and issues surrounding U.S. foreign policy	38.30	220*
153 U.S. History	(19) Understands federal Indian policy and United States foreign policy after the Civil War	37.90	243*
154 World History	(34) Understands how Eurasian societies were transformed in an era of global trade and the emergence of European power from 1750 to 1870	37.90	242
155 Civics	(27) Understands how certain character traits enhance citizens' ability to fulfill personal and civic responsibilities	37.90	215
156 Civics	(6) Understands the advantages and disadvantages of federal, confederal, and unitary systems of government	37.90	222
157 World History	(37) Understands major global trends from 1750 to 1914	37.70	248
158 Economics	(9) Understands how Gross Domestic Product and inflation and deflation provide indications of the state of the economy	37.25	214*
159 Civics	(19) Understands what is meant by "the public agenda," how it is set, and how it is influenced by public opinion and the media	37.00	214
160 Thinking and Reasoning	(4) Understands and applies basic principles of hypothesis testing and scientific inquiry	36.40	205
End of Inclusion in the Curriculum (20% Overlap Cut-Point)			
161 Science	(12) Understands motion and the principles that explain it	36.10	231
162 Economics	(1) Understands that scarcity of productive resources requires choices that generate opportunity costs	36.03	203*
163 Foreign Language	(5) Recognizes that different languages use different patterns to communicate and applies this knowledge to the native language	35.70	238

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Subject Area	Standard	Percent	N
164. Civics	(12) Understands the relationships among liberalism, republicanism, and American constitutional democracy	35.70	211
165. World History	(32) Understands the causes and consequences of political revolutions in the late 18th and early 19th centuries	35.40	232
166. Foreign Language	(1) Uses the target language to engage in conversations, express feelings and emotions, and exchange opinions and information	35.20	232*
167. Mathematics	(5) Understands and applies basic and advanced properties of the concepts of geometry	35.00	230
168. World History	(31) Understands major global trends from 1450 to 1770	34.90	225
169. Geography	(18) Understands global development and environmental issues	34.80	203*
170. Civics	(10) Understands the roles of voluntarism and organized groups in American social and political life	34.50	200
171. Science	(13) Knows the kinds of forces that exist between objects and within atoms	34.10	216
172. Geography	(17) Understands how geography is used to interpret the past	33.20	192
173. Music	(7) Understands the relationship between music and history and culture	33.20	194
174. Geography	(10) Understands the nature and complexity of Earth's cultural mosaics	33.10	191*
175. Economics	(8) Understands basic concepts of United States fiscal policy and monetary policy	32.90	187
176. Geography	(2) Knows the location of places, geographic features, and patterns of the environment	32.73	193*
177. Geography	(4) Understands the physical and human characteristics of place	32.70	227*
178. Science	(4) Knows about the diversity and unity that characterize life	32.60	209
179. Civics	(14) Understands issues concerning the disparities between ideals and reality in American political and social life	32.10	188
180. Geography	(9) Understands the nature, distribution, and migration of human populations on Earth's surface	31.97	187*
181. Civics	(23) Understands the impact of significant political and nonpolitical developments on the United States and other nations	31.80	183
182. U.S. History	(1) Understands the characteristics of societies in the Americas, Western Europe, and Western Africa that increasingly interacted after 1450	31.20	200
183. Historical Understanding	(1) Understands and knows how to analyze chronological relationships and patterns	30.93	180*
184. World History	(4) Understands how agrarian societies spread and new states emerged in the third and second millennia BCE	30.50	206
185. Mathematics	(8) Understands and applies basic and advanced properties of functions and algebra	30.25	198*
186. Mathematics	(7) Understands and applies basic and advanced concepts of probability	29.80	196
187. World History	(8) Understands how Aegean civilization emerged and how interrelations developed among peoples of the eastern Mediterranean and Southwest Asia from 600 to 200 BCE	29.48	189
188. Geography	(6) Understands that culture and experience influence people's perceptions of places and regions	29.15	171*

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Subject Area	Standard	Percent	N
189 World History	(1) Understands the biological and cultural processes that shaped the earliest human communities	29.00	194*
190 World History	(28) Understands how large territorial empires dominated much of Eurasia between the 16th and 18th centuries	28.60	183
191 World History	(2) Understands the processes that contributed to the emergence of agricultural societies around the world	28.40	190
192 Foreign Language	(4) Demonstrates knowledge and understanding of traditional ideas and perspectives, institutions, professions, literary and artistic expressions, and other components of target culture	28.17	189*
193 Geography	(12) Understands the patterns of human settlement and their causes	27.80	160*
194 Economics	(10) Understands basic concepts about international economics	27.70	157
195 Civics	(13) Understands the character of American political and social conflict and factors that tend to prevent or lower its intensity	27.60	159
196 Visual Arts	(4) Understands the visual arts in relation to history and cultures	27.60	159
197 Geography	(11) Understands the patterns and networks of economic interdependence on Earth's surface	27.28	156*
198 World History	(11) Understands major global trends from 1000 BCE to 300 CE	27.10	179
199 World History	(9) Understands how major religious and large-scale empires arose in the Mediterranean Basin, China, and India from 500 BCE to 300 CE	27.10	179
200 World History	(5) Understands the political, social, and cultural consequences of population movements and militarization in Eurasia in the second millennium BCE	26.70	176
201 Geography	(13) Understands the forces of cooperation and conflict that shape the divisions of Earth's surface	26.50	153*
202 Geography	(3) Understands the characteristics and uses of spatial organization of Earth's surface	26.20	154*
203 Art Connections	(1) Understands connections among the various art forms and other disciplines	25.30	142
204 Geography	(5) Understands the concept of regions	24.97	145*
205 Visual Arts	(5) Understands the characteristics and merits of one's own artwork and the artwork of others	24.80	143
206 Theatre	(5) Understands how informal and formal theatre, film, television, and electronic media productions create and communicate meaning	23.10	133
207 World History	(23) Understands patterns of crisis and recovery in Afro-Eurasia between 1300 and 1450	23.00	148*
208 Physical Education	(1) Uses a variety of basic and advanced movement forms	23.00	148
209 Visual Arts	(2) Knows how to use the structures (e.g., sensory qualities, organizational principles, expressive features) and functions of art	22.60	130
210 Music	(1) Sings, alone and with others, a varied repertoire of music	21.50	123
211 World History	(6) Understands major trends in Eurasia and Africa from 4000 to 1000 BCE	21.20	139
212 World History	(3) Understands the major characteristics of civilization and the development of civilizations in Mesopotamia, Egypt, and the Indus Valley	21.20	139

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Subject Area	Standard	Percent	N
213. World History	(15) Understands the political, social, and cultural redefinitions in Europe from 500 to 1000 CE	21.00	133
214. Foreign Language	(2) Comprehends and interprets written and spoken language on diverse topics from diverse media	20.20	132*
215. Visual Arts	(3) Knows a range of subject matter, symbols, and potential ideas in the visual arts	20.00	114
216. World History	(25) Understands major global trends from 1000 to 1500 CE	19.60	126
217. World History	(24) Understands the expansion of states and civilizations in the Americas between 1000 and 1500	19.60	126
218. Theatre	(6) Understands the context in which theatre, film, television, and electronic media are performed today as well as in the past	19.60	114
219. World History	(17) Understands the rise of centers of civilization in Mesoamerica and Andean South America in the first millennium CE	19.30	125
220. World History	(30) Understands transformations in Asian societies in the era of European expansion	19.30	125
221. World History	(10) Understands how early agrarian civilizations arose in Mesoamerica	19.30	125
222. World History	(12) Understands the Imperial crises and their aftermath in various regions from 300 to 700 CE	18.90	123*
223. Dance	(6) Understands connections between dance and healthful living	18.90	107
224. World History	(21) Understands the rise of the Mongol empire and its consequences for Eurasian peoples from 1200 to 1350	18.10	114
225. Visual Arts	(1) Understands and applies media, techniques, and processes related to the visual arts	18.10	104
226. Dance	(3) Understands dance as a way to create and communicate meaning	17.80	101
227. Dance	(5) Understands dance in various cultures and historical periods	17.70	101
228. World History	(18) Understands major global trends from 300 to 1000 CE	17.60	114*
229. World History	(20) Understands the redefinition of European society and culture from 1000 to 1300 CE	16.10	87
230. World History	(7) Understands technological and cultural innovation and change from 1000 to 600 BCE	14.90	96*
231. Foreign Language	(3) Presents information, concepts, and ideas to an audience of listeners or readers on a variety of topics	14.25	94*
232. Music	(2) Performs on instruments, alone and with others, a varied repertoire of music	13.30	77
233. World History	(13) Understands the causes and consequences of the development of Islamic civilization between the 7th and 10th centuries	12.70	80
234. Theatre	(2) Uses acting skills	12.50	72
235. Music	(6) Knows and applies appropriate criteria to music and music performances	9.50	54
236. World History	(14) Understands major developments in East Asia and Southeast Asia in the era of the Tang Dynasty from 600 to 900 CE	8.90	56
237. Dance	(4) Applies critical and creative thinking skills in dance	8.70	49

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Subject Area	Standard	Percent	N
238 World History	(19) Understands the maturation of an interregional system of communication, trade, and cultural exchange during a period of Chinese economic power and Islamic expansion	8.60	54
239 World History	(16) Understands the development of agricultural societies and new states in tropical Africa and Oceania	8.50	53
240 Music	(5) Reads and notates music	8.10	47
241 Theatre	(1) Demonstrates competence in writing scripts	8.10	46
242 Music	(3) Improvises melodies, variations, and accompaniments	7.00	40
243 Dance	(2) Understands choreographic principles, processes, and structures	6.70	39
244 World History	(22) Understands the growth of states, towns, and trade in Sub-Saharan Africa between the 11th and 15th centuries	6.40	41
245 Dance	(1) Identifies and demonstrates movement elements and skills in performing dance	6.40	117
246 Music	(4) Composes and arranges music within specified guidelines	6.00	34
247 Theatre	(4) Directs scenes and productions	5.60	32
248 Theatre	(3) Designs and produces informal and formal productions	5.20	30

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APPENDIX D
MORE THAN HIGH SCHOOL EDUCATION

Subject Area	Standard	Percent	N
1 Health	(9) Understands aspects of substance use and abuse	88.00	286
2 Language Arts	(3) Uses grammatical and mechanical conventions in written compositions	86.63	244
3 Health	(3) Understands the relationship of family health to individual health	82.98	272
4 U.S. History	(13) Understands the causes of the Civil War	79.85	250
5 U.S. History	(6) Understands the causes of the American Revolution, the ideas and interests involved in shaping the revolutionary movement, and reasons for the American victory	79.02	246
6 World History	(41) Understands the causes and global consequences of World War II	78.17	254
7 Technology	(2) Knows the characteristics and uses of computer software programs	76.51	240
8 Health	(8) Knows essential concepts about the prevention and control of disease	76.42	250
9 Science	(1) Understands basic features of the Earth	74.85	236
10 Geography	(1) Understands the characteristics and uses of maps, globes, and other geographic tools and technologies	74.66	211
11 Health	(4) Knows how to maintain mental and emotional health	73.45	240
12 Health	(1) Knows the availability and effective use of health services, products, and information	73.04	238
13 Health	(6) Understands essential concepts about nutrition and diet	72.88	239
14 U.S. History	(25) Understands the causes and course of World War II, the character of the war at home and abroad, and its reshaping of the U.S. role in world affairs	72.82	226
15 Mathematics	(9) Understands the general nature and uses of mathematics	72.25	237
16 World History	(40) Understands the search for peace and stability throughout the world in the 1920s and 1930s	71.69	234
17 Civics	(1) Understands ideas about civic life, politics, and government	71.48	200
18 Civics	(4) Understands the concept of a constitution, the various purposes that constitutions serve, and the conditions that contribute to the establishment and maintenance of constitutional government	71.38	201
19 Language Arts	(7) Demonstrates competence in the general skills and strategies for reading a variety of informational texts	71.03	199*
20 U.S. History	(23) Understands the causes of the Great Depression and how it affected American society	70.59	220
21 Working with Others	(3) Works well with diverse individuals and in diverse situations	70.51	199
22 Life Work	(4) Pursues specific jobs	70.41	198
23 Science	(7) Understands how species depend on one another and on the environment for survival	70.08	218
24 Mathematics	(3) Uses basic and advanced procedures while performing the processes of computation	69.03	226*

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Subject Area	Standard	Percent	N
25. Civics	(8) Understands the central ideas of American constitutional government and how this form of government has shaped the character of American society	68.94	71
26. Life Work	(8) Operates effectively within organizations	68.64	193
27. Life Work	(7) Displays reliability and a basic work ethic	68.64	193
28. Self-Regulation	(3) Considers risks	68.43	191
29. Mathematics	(4) Understands and applies basic and advanced properties of the concepts of measurement	68.31	223
30. Language Arts	(1) Demonstrates competence in the general skills and strategies of the writing process	68.29	192*
31. Technology	(1) Knows the characteristics and uses of computer hardware and operating systems	68.03	213
32. Civics	(3) Understands the sources, purposes, and functions of law and the importance of the rule of law for the protection of individual rights and the common good	67.77	191
33. Health	(5) Knows essential concepts and practices concerning injury prevention and safety	67.40	221
34. U.S. History	(7) Understands the impact of the American Revolution on politics, economy, and society	67.03	292
35. World History	(45) Understands major global trends since Word War II	66.88	217*
36. Thinking and Reasoning	(3) Effectively uses mental processes that are based on identifying similarities and differences (compares, contrasts, classifies)	66.73	184
37. Health	(10) Understands the fundamental concepts of growth and development	66.35	215*
38. Life Work	(3) Manages money effectively	66.28	186
39. Language Arts	(4) Gathers and uses information for research purposes	66.09	184
40. Civics	(9) Understands the importance of Americans sharing and supporting certain values, beliefs, and principles of American constitutional democracy	65.94	185
41. Civics	(24) Understands the meaning of citizenship in the United States, and knows the requirements for citizenship and naturalization	65.89	185
42. Working with Others	(4) Displays effective interpersonal communication skills	65.72	185
43. Life Work	(5) Makes general preparation for entering the work force	65.64	186
44. Health	(7) Knows how to maintain and promote personal health	65.55	213
45. Language Arts	(2) Demonstrates competence in the stylistic and rhetorical aspects of writing	65.35	184
46. Mathematics	(1) Uses a variety of strategies in the problem-solving process	65.26	212
47. Working with Others	(1) Contributes to the overall effort of a group	65.24	181
48. Civics	(15) Understands how the United States Constitution grants and distributes power and responsibilities to national and state government and how it seeks to prevent the abuse of power	64.91	183*
49. Thinking and Reasoning	(5) Applies basic trouble-shooting and problem-solving techniques	64.79	182

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Subject Area	Standard	Percent	N
50 U.S. History	(4) Understands how political, religious, and social institutions emerged in the North American colonies	64.10	199
51 U.S. History	(2) Understands cultural and ecological interactions among previously unconnected people resulting from early European exploration and colonization	64.02	200
52 U.S. History	(10) Understands how the industrial revolution, increasing immigration, the rapid expansion of slavery, and the westward movement changed American lives and led to regional tensions	63.67	199
53 Self-Regulation	(1) Sets and manages goals	63.43	176
54 World History	(43) Understands how post-World War II reconstruction occurred, new international power relations took shape, and colonial empires broke up	62.95	204*
55 U.S. History	(29) Understands the struggle for racial and gender equality and for the extension of civil liberties	62.47	193
56 Geography	(8) Understands the characteristics of ecosystems on Earth's surface	62.11	173*
57 Science	(8) Understands the cycling of matter and flow of energy through the living environment	61.79	191
58 U.S. History	(22) Understands how the United States changed between the post-World War I years and the eve of the Great Depression	61.33	192
59 Life Work	(6) Makes effective use of basic life skills	60.86	171
60 U.S. History	(24) Understands how the New Deal addressed the Great Depression, transformed American federalism, and initiated the welfare state	60.80	190
61 Geography	(7) Knows the physical processes that shape patterns on Earth's surface	60.35	168*
62 U.S. History	(5) Understands how the values and institutions of European economic life took root in the colonies and how slavery reshaped European and African life in the Americas	59.89	186
63 Self-Regulation	(2) Performs self-appraisal	59.78	166
64 Economics	(6) Understands the roles government plays in the United States economy	59.68	167*
65 World History	(44) Understands the search for community, stability, and peace in an interdependent world	59.27	192
66 Behavioral Studies	(1) Understands that group and cultural influences contribute to human development, identity, and behavior	59.26	182*
67 Economics	(3) Understands the concept of prices and the interaction of supply and demand in a market economy	58.97	166
68 Thinking and Reasoning	(1) Understands and applies the basic principles of presenting an argument	58.84	164
69 Civics	(16) Understands the major responsibilities of the national government for domestic and foreign policy, and understands how government is financed through taxation	58.82	165
70 Self-Regulation	(6) Restrains impulsivity	58.77	165
71 Self-Regulation	(5) Maintains a healthy self-concept	58.71	165

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Subject Area	Standard	Percent	N
72 U.S. History	(8) Understands the institutions and practices of government created during the revolution and how these elements were revised between 1787 and 1815 to create the foundation of the American political system based on the U.S. Constitution and the Bill of Rights	58.48	181
73 Civics	(11) Understands the role of diversity in American life and the importance of shared values, political beliefs, and civic beliefs in an increasingly diverse American society	58.39	163
74 Science	(5) Understands the genetic basis for the transfer of biological characteristics from one generation to the next	58.31	182
75 World History	(46) Understands long-term changes and recurring patterns in world history	58.30	189*
76 Physical Education	(4) Understands how to monitor and maintain a health-enhancing level of physical fitness	58.23	182*
77 Working with Others	(2) Uses conflict-resolution techniques	57.80	163
78 Civics	(18) Understands the role and importance of law in the American constitutional system and issues regarding the judicial protection of individual rights	57.75	162*
79 World History	(42) Understands major global trends from 1900 to the end of World War II	57.51	186
80 World History	(39) Understands the causes and global consequences of World War I	57.51	186
81 Civics	(2) Understands the essential characteristics of limited and unlimited governments	57.46	161
82 U.S. History	(16) Understands how the rise of corporations, heavy industry, and mechanized farming transformed American society	57.41	179
83 U.S. History	(14) Understands the course and character of the Civil War and its effects on the American people	57.16	177*
84 Physical Education	(5) Understands the social and personal responsibility associated with participation in physical activity	56.64	177
85 U.S. History	(3) Understands why the Americas attracted Europeans, why they brought enslaved Africans to their colonies, and how Europeans struggled for control of North America and the Caribbean	56.43	176
86 Science	(14) Understands the nature of scientific knowledge	56.27	172
87 U.S. History	(27) Understands how the Cold War and conflicts in Korea and Vietnam influenced domestic and international politics	56.12	152
88 Science	(16) Understands the scientific enterprise	55.84	171
89 World History	(35) Understands patterns of nationalism, state-building, and social reform in Europe and the Americas from 1830 to 1914	55.62	182
90 Science	(3) Understands essential ideas about the composition and structure of the universe and the Earth's place in it	55.57	174
91 Civics	(5) Understands the major characteristics of systems of shared powers and of parliamentary systems	55.19	155
92 U.S. History	(31) Understands economic, social, and cultural developments in the contemporary United States	54.83	171
93 U.S. History	(21) Understands the changing role of the United States in world affairs through World War I	54.27	169

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Subject Area	Standard	Percent	N
94 Health	(2) Knows environmental and external factors that affect individual and community health	54.16	175
95 U.S. History	(26) Understands the economic boom and social transformation of post-World War II United States	53.68	165
96 World History	(26) Understands how the transoceanic interlinking of all major regions of the world between 1450 and 1600 led to global transformations	53.59	173
97 Self-Regulation	(4) Demonstrates perseverance	53.56	149
98 U.S. History	(9) Understands the United States territorial expansion between 1801 and 1861, and how it affected relations with external powers and Native Americans	53.22	165*
99 Behavioral Studies	(2) Understands various meanings of social group, general implications of group membership, and different ways that groups function	53.20	163*
100 U.S. History	(12) Understands the sources and character of cultural, religious, and social reform movements in the antebellum period	52.57	162*
101 Science	(11) Understands energy types, sources, and conversions, and their relationship to heat and temperature	51.97	162
102 Science	(6) Knows the general structure and functions of cells in organisms	51.72	161
103 Language Arts	(5) Demonstrates competence in the general skills and strategies of the reading process	51.30	121*
104 U.S. History	(11) Understands the extension, restriction, and reorganization of political democracy after 1800	50.64	157*
105 Behavioral Studies	(3) Understands that interactions among learning, inheritance, and physical development affect human behavior	50.54	155*
106 Mathematics	(6) Understands and applies basic and advanced concepts of statistics and data analysis	50.29	163*
107 Economics	(5) Understands unemployment, income, and income distribution in a market economy	50.23	163*
108 Civics	(28) Understands how participation in civic and political life can help citizens attain individual and public goals	50.12	139
109 Civics	(29) Understands the importance of political leadership, public service, and a knowledgeable citizenry in American constitutional democracy	50.12	139
110 U.S. History	(15) Understands how various reconstruction plans succeeded or failed	49.94	154
111 Civics	(17) Understands issues concerning the relationship between state and local governments and the national government and issues pertaining to representation at all three levels of government	49.88	140
112 World History	(33) Understands the causes and consequences of the agricultural and industrial revolutions from 1700 to 1850	49.45	160
113 Life Work	(1) Makes effective use of basic tools	49.10	136
114 Working with Others	(5) Demonstrates leadership skills	49.10	137
115 World History	(29) Understands the economic, political, and cultural interrelations among peoples of Africa, Europe, and the Americas between 1500 and 1750	48.82	158
116 U.S. History	(28) Understands domestic policies in the post-World War II period	48.79	175

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Subject Area	Standard	Percent	N
117 Civics	(20) Understands the roles of political parties, campaigns, elections, and associations and groups in American politics	48.50	136*
118 Life Work	(2) Uses various information sources, including those of a technical nature, to accomplish specific tasks	48.29	135
119 Geography	(14) Understands how human actions modify the physical environment	48.23	134*
120 Science	(10) Understands basic concepts about the structure and properties of matter	48.07	150
121 World History	(36) Understands patterns of global change in the era of Western military and economic domination from 1850 to 1914	48.03	156
122 Science	(2) Understands basic Earth processes	47.95	150*
123 Science	(15) Understands the nature of scientific inquiry	47.78	144
124 Science	(9) Understands the basic concepts of the evolution of species	47.19	145
125 U.S. History	(18) Understands the rise of the American labor movement and how political issues reflected social and economic changes	46.96	144
126 U.S. History	(17) Understands massive immigration after 1870 and how new social patterns, conflicts, and ideas of national unity developed amid growing cultural diversity	46.27	143
127 Economics	(7) Understands savings, investment, and interest rates	46.27	130
128 U.S. History	(30) Understands developments in foreign and domestic policies between the Nixon and Clinton presidencies	46.24	142
129 Language Arts	(6) Demonstrates competence in general skills and strategies for reading a variety of literary texts	45.97	128*
130 U.S. History	(20) Understands how Progressives and others addressed problems of industrial capitalism, urbanization, and political corruption	45.96	143*
131 Geography	(16) Understands the changes that occur in the meaning, use, distribution, and importance of resources	45.53	128*
132 World History	(38) Understands reform, revolution, and social change in the world economy in the early century	44.99	141
133 Thinking and Reasoning	(2) Understands and applies basic principles of logic and reasoning	44.91	124
End of Inclusion in the Curriculum (No Overlap Cut-Point)			
134 Thinking and Reasoning	(4) Understands and applies basic principles of hypothesis testing and scientific inquiry	44.47	99
135 Historical Understanding	(2) Understands the historical perspective	44.23	123*
136 Mathematics	(2) Understands and applies basic and advanced properties of the concepts of numbers	44.09	143
137 Language Arts	(8) Demonstrates competence in speaking and listening as tools for learning	43.87	123*
138 Thinking and Reasoning	(6) Applies decision-making techniques	43.76	119
139 Geography	(15) Understands how physical systems affect human systems	43.11	120*
140 World History	(34) Understands how Eurasian societies were transformed in an era of global trade and the emergence of European power from 1750 to 1870	43.03	138

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Subject Area	Standard	Percent	N
141 Civics	(26) Understands issues regarding the proper scope and limits of rights and the relationships among personal, political, and economic rights	42.67	118
142 Civics	(25) Understands issues regarding personal, political, and economic rights	42.67	118
143 Economics	(2) Understands characteristics of different economic systems, economic institutions, and economic incentives	42.65	118*
144 Civics	(21) Understands the formation and implementation of public policy	42.00	118
145 World History	(37) Understands major global trends from 1750 to 1914	41.56	134
146 Technology	(4) Understands the nature of technological design	40.90	125
147 U.S. History	(19) Understands federal Indian policy and United States foreign policy after the Civil War	40.48	125*
148 Economics	(4) Understands basic features of market structures and exchanges	40.26	112*
149 Science	(12) Understands motion and the principles that explain it	40.04	123
150 World History	(27) Understands how European society experienced political, economic, and cultural transformations in an age of global intercommunication between 1450 and 1750	39.92	128*
151 Technology	(3) Understands relationships among science, technology, society, and the individual	39.39	122
152 Civics	(6) Understands the advantages and disadvantages of federal, confederal, and unitary systems of government	39.27	109
153 Economics	(9) Understands how Gross Domestic Product and inflation and deflation provide indications of the state of the economy	38.67	108*
154 Geography	(4) Understands the physical and human characteristics of place	38.65	107*
155 Science	(4) Knows about the diversity and unity that characterize life	38.35	119
156 Physical Education	(2) Uses movement concepts and principles in the development of motor skills	38.35	118*
157 U.S. History	(1) Understands the characteristics of societies in the Americas, Western Europe, and Western Africa that increasingly interacted after 1450	37.91	117
158 Civics	(12) Understands the relationships among liberalism, republicanism, and American constitutional democracy	37.67	104
159 Geography	(17) Understands how geography is used to interpret the past	37.36	103
160 Civics	(7) Understands alternative forms of representation and how they serve the purposes of constitutional government	36.84	101
End of Inclusion in the Curriculum (20% Overlap Cut-Point)			
161 Economics	(1) Understands that scarcity of productive resources requires choices that generate opportunity costs	36.75	100*
162 Civics	(22) Understands how the world is organized politically into nation-states, how nation-states interact with one another, and issues surrounding U.S. foreign policy	36.63	102*
163 Civics	(10) Understands the roles of voluntarism and organized groups in American social and political life	36.43	101

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subject Area	Standard	Percent	N
164 Physical Education	(3) Understands the benefits and costs associated with participation in physical activity	35.96	112*
165 Technology	(5) Understands the nature and operation of systems	34.97	100
166 Geography	(2) Knows the location of places, geographic features, and patterns of the environment	34.88	97*
167 Civics	(19) Understands what is meant by "the public agenda," how it is set, and how it is influenced by public opinion and the media	34.85	96
168 Mathematics	(5) Understands and applies basic and advanced properties of the concepts of geometry	34.31	110
169 Foreign Language	(5) Recognizes that different languages use different patterns to communicate and applies this knowledge to the native language	34.24	111
170 Music	(7) Understands the relationship between music and history and culture	33.93	94
171 Geography	(10) Understands the nature and complexity of Earth's cultural mosaics	33.90	94*
172 Geography	(18) Understands global development and environmental issues	33.70	93*
173 Civics	(27) Understands how certain character traits enhance citizens' ability to fulfill personal and civic responsibilities	33.20	91
174 World History	(32) Understands the causes and consequences of political revolutions in the late 18th and early 19th centuries	33.14	107
175 World History	(31) Understands major global trends from 1450 to 1770	33.00	107
176 Science	(13) Knows the kinds of forces that exist between objects and within atoms	32.89	100
177 Geography	(9) Understands the nature, distribution, and migration of human populations on Earth's surface	32.47	90*
178 Foreign Language	(1) Uses the target language to engage in conversations, express feelings and emotions, and exchange opinions and information	32.39	106*
179 Civics	(14) Understands issues concerning the disparities between ideals and reality in American political and social life	31.50	86
180 World History	(2) Understands the processes that contributed to the emergence of agricultural societies around the world	30.91	100
181 World History	(4) Understands how agrarian societies spread and new states emerged in the third and second millennia BCE	30.83	100
182 Mathematics	(7) Understands and applies basic and advanced concepts of probability	30.71	99
183 World History	(1) Understands the biological and cultural processes that shaped the earliest human communities	30.65	100*
184 Historical Understanding	(1) Understands and knows how to analyze chronological relationships and patterns	30.54	99*
185 World History	(5) Understands the political, social, and cultural consequences of population movements and militarization in Eurasia in the second millennium BCE	30.30	98
186 Geography	(6) Understands that culture and experience influence people's perceptions of places and regions	29.81	83*
187 World History	(8) Understands how Aegean civilization emerged and how interrelations developed among peoples of the eastern Mediterranean and Southwest Asia from 600 to 200 BCE	29.80	96

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Subject Area	Standard	Percent	N
188 Mathematics	(8) Understands and applies basic and advanced properties of functions and algebra	29.16	92*
189 Economics	(8) Understands basic concepts of United States fiscal policy and monetary policy	28.81	79
190 Foreign Language	(4) Demonstrates knowledge and understanding of traditional ideas and perspectives, institutions, professions, literary and artistic expressions, and other components of target culture	28.75	94*
191 World History	(11) Understands major global trends from 1000 BCE to 300 CE	28.13	92
192 World History	(9) Understands how major religious and large-scale empires arose in the Mediterranean Basin, China, and India from 500 BCE to 300 CE	28.13	92
193 Visual Arts	(4) Understands the visual arts in relation to history and cultures	28.05	78
194 Civics	(23) Understands the impact of significant political and nonpolitical developments on the United States and other nations	27.90	77
195 Behavioral Studies	(4) Understands conflict, cooperation, and interdependence among individuals, groups, and institutions	27.62	145*
196 Geography	(11) Understands the patterns and networks of economic interdependence on Earth's surface	27.11	75*
197 Geography	(12) Understands the patterns of human settlement and their causes	27.07	75*
198 Civics	(13) Understands the character of American political and social conflict and factors that tend to prevent or lower its intensity	26.62	72
199 Economics	(10) Understands basic concepts about international economics	26.41	73
200 Geography	(13) Understands the forces of cooperation and conflict that shape the divisions of Earth's surface	26.20	72*
201 Geography	(5) Understands the concept of regions	26.04	71*
202 Art Connections	(1) Understands connections among the various art forms and other disciplines	25.82	68
203 Visual Arts	(5) Understands the characteristics and merits of one's own artwork and the artwork of others	25.62	70
204 World History	(28) Understands how large territorial empires dominated much of Eurasia between the 16th and 18th centuries	24.93	143
205 World History	(6) Understands major trends in Eurasia and Africa from 4000 to 1000 BCE	24.76	79
206 World History	(3) Understands the major characteristics of civilization and the development of civilizations in Mesopotamia, Egypt, and the Indus Valley	24.76	79
207 Theatre	(5) Understands how informal and formal theatre, film, television, and electronic media productions create and communicate meaning	24.71	68
208 World History	(15) Understands the political, social, and cultural redefinitions in Europe from 500 to 1000 CE	24.08	76
209 Geography	(3) Understands the characteristics and uses of spatial organization of Earth's surface	23.65	66*
210 Visual Arts	(2) Knows how to use the structures (e.g., sensory qualities, organizational principles, expressive features) and functions of art	22.39	139
211 World History	(23) Understands patterns of crisis and recovery in Afro-Eurasia between 1300 and 1450	21.94	70*

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Subject Area	Standard	Percent	N
212 World History	(10) Understands how early agrarian civilizations arose in Mesoamerica	19.80	64
213 World History	(17) Understands the rise of centers of civilization in Mesoamerica and Andean South America in the first millennium CE	19.80	64
214 World History	(25) Understands major global trends from 1000 to 1500 CE	19.77	62
215 World History	(24) Understands the expansion of states and civilizations in the Americas between 1000 and 1500	19.77	62
216 World History	(30) Understands transformations in Asian societies in the era of European expansion	19.67	63
217 Theatre	(6) Understands the context in which theatre, film, television, and electronic media are performed today as well as in the past	19.33	53
218 World History	(12) Understands the imperial crises and their aftermath in various regions from 300 to 700 CE	19.22	62*
219 Physical Education	(1) Uses a variety of basic and advanced movement forms	18.06	56
220 Visual Arts	(3) Knows a range of subject matter, symbols, and potential ideas in the visual arts	18.05	49
221 World History	(18) Understands major global trends from 300 to 1000 CE	17.62	57*
222 Dance	(3) Understands dance as a way to create and communicate meaning	17.41	48
223 Foreign Language	(2) Comprehends and interprets written and spoken language on diverse topics from diverse media	17.17	56*
224 World History	(20) Understands the redefinition of European society and culture from 1000 to 1300 CE	15.84	42
225 World History	(7) Understands technological and cultural innovation and change from 1000 to 600 BCE	15.77	51*
226 World History	(21) Understands the rise of the Mongol empire and its consequences for Eurasian peoples from 1200 to 1350	15.75	50
227 Music	(1) Sings, alone and with others, a varied repertoire of music	15.69	43
228 Dance	(6) Understands connections between dance and healthful living	15.00	41
229 Dance	(5) Understands dance in various cultures and historical periods	14.94	41
230 Visual Arts	(1) Understands and applies media, techniques, and processes related to the visual arts	13.83	38
231 Music	(2) Performs on instruments, alone and with others, a varied repertoire of music	12.24	34
232 World History	(13) Understands the causes and consequences of the development of Islamic civilization between the 7th and 10th centuries	11.89	37
233 World History	(16) Understands the development of agricultural societies and new states in tropical Africa and Oceania	10.13	31
234 Foreign Language	(3) Presents information, concepts, and ideas to an audience of listeners or readers on a variety of topics	9.65	31*
235 World History	(14) Understands major developments in East Asia and Southeast Asia in the era of the Tang Dynasty from 600 to 900 CE	9.63	30

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Subject Area	Standard	Percent	N
236 World History	(19) Understands the maturation of an interregional system of communication, trade, and cultural exchange during a period of Chinese economic power and Islamic expansion	7.88	25
237 Music	(6) Knows and applies appropriate criteria to music and music performances	7.55	21
238 World History	(22) Understands the growth of states, towns, and trade in Sub-Saharan Africa between the 11th and 15th centuries	7.38	23
239 Music	(5) Reads and notates music	7.33	20
240 Dance	(4) Applies critical and creative thinking skills in dance	6.07	16
241 Theatre	(2) Uses acting skills	5.32	14
242 Music	(3) Improvises melodies, variations, and accompaniments	5.12	14
243 Theatre	(1) Demonstrates competence in writing scripts	5.03	14
244 Dance	(1) Identifies and demonstrates movement elements and skills in performing dance	3.96	11
245 Dance	(2) Understands choreographic principles, processes, and structures	3.83	10
246 Music	(4) Composes and arranges music within specified guidelines	3.47	12
247 Theatre	(3) Designs and produces informal and formal productions	2.73	7
248 Theatre	(4) Directs scenes and productions	2.15	6

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APPENDIX E
HIGH SCHOOL EDUCATION OR LESS

	Subject Area	Standard	Percent	N
1	Health	(9) Understands aspects of substance use and abuse	90.95	323
2	Health	(8) Knows essential concepts about the prevention and control of disease	82.13	295
3	Language Arts	(3) Uses grammatical and mechanical conventions in written compositions	79.86	238
4	Health	(4) Knows how to maintain mental and emotional health	78.28	280
5	Health	(3) Understands the relationship of family health to individual health	78.04	278
6	Life Work	(3) Manages money effectively	76.76	234
7	Technology	(2) Knows the characteristics and uses of computer software programs	76.40	263
8	Life Work	(5) Makes general preparation for entering the work force	75.90	229
9	Life Work	(7) Displays reliability and a basic work ethic	75.68	227
10	Life Work	(8) Operates effectively within organizations	75.68	227
11	Life Work	(6) Makes effective use of basic life skills	75.46	225
12	Health	(5) Knows essential concepts and practices concerning injury prevention and safety	74.03	262
13	Geography	(1) Understands the characteristics and uses of maps, globes, and other geographic tools and technologies	73.45	230
14	Technology	(1) Knows the characteristics and uses of computer hardware and operating systems	71.81	244
15	Health	(10) Understands the fundamental concepts of growth and development	71.58	255*
16	Health	(1) Knows the availability and effective use of health services, products, and information	71.37	256
17	Health	(7) Knows how to maintain and promote personal health	71.20	254
18	Civics	(24) Understands the meaning of citizenship in the United States, and knows the requirements for citizenship and naturalization	70.86	213
19	Health	(6) Understands essential concepts about nutrition and diet	70.77	249
20	Mathematics	(4) Understands and applies basic and advanced properties of the concepts of measurement	69.76	241
21	Civics	(3) Understands the sources, purposes, and functions of law and the importance of the rule of law for the protection of individual rights and the common good	68.83	210
22	Life Work	(4) Pursues specific jobs	67.51	229
23	World History	(41) Understands the causes and global consequences of World War II	67.35	232
24	Working with Others	(4) Displays effective interpersonal communication skills	66.49	200
25	Health	(2) Knows environmental and external factors that affect individual and community health	66.15	238
26	Mathematics	(9) Understands the general nature and uses of mathematics	66.05	230

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	Subject Area	Standard	Percent	N
27	U.S. History	(6) Understands the causes of the American Revolution, the ideas and interests involved in shaping the revolutionary movement, and reasons for the American victory	66.03	220
28	Self-Regulation	(3) Considers risks	66.00	200
29	World History	(40) Understands the search for peace and stability throughout the world in the 1920s and 1930s	65.20	222
30	U.S. History	(23) Understands the causes of the Great Depression and how it affected American society	65.06	223
31	Mathematics	(3) Uses basic and advanced procedures while performing the processes of computation	64.13	224*
32	U.S. History	(13) Understands the causes of the Civil War	63.51	214
33	Science	(1) Understands basic features of the Earth	63.41	218
34	Science	(7) Understands how species depend on one another and on the environment for survival	63.33	217
35	Working with Others	(3) Works well with diverse individuals and in diverse situations	62.95	185
36	Self-Regulation	(5) Maintains a healthy self-concept	62.92	191
37	World History	(45) Understands major global trends since Word War II	62.28	214*
38	Geography	(8) Understands the characteristics of ecosystems on Earth's surface	61.78	188*
39	Physical Education	(4) Understands how to monitor and maintain a health-enhancing level of physical fitness	61.60	210*
40	Civics	(8) Understands the central ideas of American constitutional government and how this form of government has shaped the character of American society	61.22	97
41	U.S. History	(25) Understands the causes and course of World War II, the character of the war at home and abroad, and its reshaping of the U.S. role in world affairs	61.01	208
42	World History	(44) Understands the search for community, stability, and peace in an interdependent world	60.84	209
43	Thinking and Reasoning	(5) Applies basic trouble-shooting and problem-solving techniques	60.47	179
44	Language Arts	(7) Demonstrates competence in the general skills and strategies for reading a variety of informational texts	60.24	182*
45	Civics	(4) Understands the concept of a constitution, the various purposes that constitutions serve, and the conditions that contribute to the establishment and maintenance of constitutional government	59.95	181
46	Civics	(15) Understands how the United States Constitution grants and distributes power and responsibilities to national and state government and how it seeks to prevent the abuse of power	59.93	182*
47	Self-Regulation	(6) Restrains impulsivity	59.89	181
48	U.S. History	(7) Understands the impact of the American Revolution on politics, economy, and society	59.45	304
49	World History	(43) Understands how post-World War II reconstruction occurred, new international power relations took shape, and colonial empires broke up	59.24	203*

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Subject Area	Standard	Percent	N
50 Civics	(1) Understands ideas about civic life, politics, and government	59.04	181
51 Life Work	(2) Uses various information sources, including those of a technical nature, to accomplish specific tasks	58.85	178
52 Language Arts	(5) Demonstrates competence in the general skills and strategies of the reading process	58.74	114*
53 Civics	(9) Understands the importance of Americans sharing and supporting certain values, beliefs, and principles of American constitutional democracy	58.66	179
54 Technology	(4) Understands the nature of technological design	58.30	192
55 Working with Others	(5) Demonstrates leadership skills	58.14	175
56 Physical Education	(5) Understands the social and personal responsibility associated with participation in physical activity	57.89	197
57 Language Arts	(1) Demonstrates competence in the general skills and strategies of the writing process	57.28	170*
58 Thinking and Reasoning	(1) Understands and applies the basic principles of presenting an argument	56.51	168
59 Language Arts	(4) Gathers and uses information for research purposes	56.50	168
60 Self-Regulation	(2) Performs self-appraisal	56.12	170
61 Mathematics	(1) Uses a variety of strategies in the problem-solving process	56.02	195
62 Life Work	(1) Makes effective use of basic tools	55.74	169
63 Self-Regulation	(4) Demonstrates perseverance	55.57	168
64 World History	(46) Understands long-term changes and recurring patterns in world history	55.34	190*
65 Language Arts	(2) Demonstrates competence in the stylistic and rhetorical aspects of writing	54.61	165
66 World History	(42) Understands major global trends from 1900 to the end of World War II	54.59	185
67 World History	(39) Understands the causes and global consequences of World War I	54.59	185
68 Geography	(16) Understands the changes that occur in the meaning, use, distribution, and importance of resources	54.45	108*
69 Economics	(6) Understands the roles government plays in the United States economy	54.31	165*
70 U.S. History	(2) Understands cultural and ecological interactions among previously unconnected people resulting from early European exploration and colonization	53.96	179
71 Self-Regulation	(1) Sets and manages goals	53.92	163
72 Technology	(5) Understands the nature and operation of systems	53.76	181
73 U.S. History	(22) Understands how the United States changed between the post-World War I years and the eve of the Great Depression	53.52	182
74 Civics	(20) Understands the roles of political parties, campaigns, elections, and associations and groups in American politics	53.52	162*
75 Science	(16) Understands the scientific enterprise	53.43	170

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	Subject Area	Standard	Percent	N
76	Civics	(18) Understands the role and importance of law in the American constitutional system and issues regarding the judicial protection of individual rights	53.31	161*
77	Geography	(7) Knows the physical processes that shape patterns on Earth's surface	53.11	162*
78	Science	(5) Understands the genetic basis for the transfer of biological characteristics from one generation to the next	52.48	175
79	Civics	(11) Understands the role of diversity in American life and the importance of shared values, political beliefs, and civic beliefs in an increasingly diverse American society	52.45	166
80	Working with Others	(1) Contributes to the overall effort of a group	52.21	153
81	Civics	(16) Understands the major responsibilities of the national government for domestic and foreign policy, and understands how government is financed through taxation	52.01	156
82	U.S. History	(14) Understands the course and character of the Civil War and its effects on the American people	51.98	174*
83	U.S. History	(18) Understands the rise of the American labor movement and how political issues reflected social and economic changes	51.24	174
84	Technology	(3) Understands relationships among science, technology, society, and the individual	51.15	173
85	Working with Others	(2) Uses conflict-resolution techniques	51.13	151
86	Science	(14) Understands the nature of scientific knowledge	50.94	162
87	Civics	(2) Understands the essential characteristics of limited and unlimited governments	50.85	155
88	U.S. History	(27) Understands how the Cold War and conflicts in Korea and Vietnam influenced domestic and international politics	50.80	137
89	Economics	(7) Understands savings, investment, and interest rates	50.21	148
90	U.S. History	(21) Understands the changing role of the United States in world affairs through World War I	50.14	171
91	U.S. History	(16) Understands how the rise of corporations, heavy industry, and mechanized farming transformed American society	49.89	163
92	U.S. History	(8) Understands the institutions and practices of government created during the revolution and how these elements were revised between 1787 and 1815 to create the foundation of the American political system based on the U.S. Constitution and the Bill of Rights	49.85	166
93	Geography	(14) Understands how human actions modify the physical environment	49.74	153*
94	U.S. History	(24) Understands how the New Deal addressed the Great Depression, transformed American federalism, and initiated the welfare state	49.55	170
95	Science	(11) Understands energy types, sources, and conversions, and their relationship to heat and temperature	49.40	166
96	Civics	(28) Understands how participation in civic and political life can help citizens attain individual and public goals	49.40	146
97	Civics	(29) Understands the importance of political leadership, public service, and a knowledgeable citizenry in American constitutional democracy	49.40	146

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Subject Area	Standard	Percent	N
98 Economics	(5) Understands unemployment, income, and income distribution in a market economy	49.28	147*
99 Civics	(17) Understands issues concerning the relationship between state and local governments and the national government and issues pertaining to representation at all three levels of government	49.08	147
100 Behavioral Studies	(1) Understands that group and cultural influences contribute to human development, identity, and behavior	48.83	161*
101 Science	(8) Understands the cycling of matter and flow of energy through the living environment	48.76	164
102 U.S. History	(4) Understands how political, religious, and social institutions emerged in the North American colonies	48.51	164
103 Thinking and Reasoning	(3) Effectively uses mental processes that are based on identifying similarities and differences (compares, contrasts, classifies)	48.27	143
104 Economics	(3) Understands the concept of prices and the interaction of supply and demand in a market economy	48.11	147
105 World History	(36) Understands patterns of global change in the era of Western military and economic domination from 1850 to 1914	47.89	162
106 World History	(29) Understands the economic, political, and cultural interrelations among peoples of Africa, Europe, and the Americas between 1500 and 1750	47.87	159
107 Physical Education	(3) Understands the benefits and costs associated with participation in physical activity	47.69	162*
108 World History	(33) Understands the causes and consequences of the agricultural and industrial revolutions from 1700 to 1850	47.39	156
109 Civics	(26) Understands issues regarding the proper scope and limits of rights and the relationships among personal, political, and economic rights	47.39	143
110 Civics	(25) Understands issues regarding personal, political, and economic rights	47.39	143
111 World History	(35) Understands patterns of nationalism, state-building, and social reform in Europe and the Americas from 1830 to 1914	47.32	160
112 U.S. History	(30) Understands developments in foreign and domestic policies between the Nixon and Clinton presidencies	47.14	159
113 Economics	(4) Understands basic features of market structures and exchanges	47.11	147*
114 World History	(26) Understands how the transoceanic interlinking of all major regions of the world between 1450 and 1600 led to global transformations	47.01	157
115 Science	(15) Understands the nature of scientific inquiry	46.98	146
116 Geography	(15) Understands how physical systems affect human systems	46.83	141*
117 Behavioral Studies	(4) Understands conflict, cooperation, and interdependence among individuals, groups, and institutions	46.65	122*
118 Science	(3) Understands essential ideas about the composition and structure of the universe and the Earth's place in it	46.33	157
119 Language Arts	(8) Demonstrates competence in speaking and listening as tools for learning	46.13	238
120 Civics	(5) Understands the major characteristics of systems of shared powers and of parliamentary systems	45.95	138

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Subject Area	Standard	Percent	N
121 U.S. History	(10) Understands how the industrial revolution, increasing immigration, the rapid expansion of slavery, and the westward movement changed American lives and led to regional tensions	45.77	134
122 Behavioral Studies	(2) Understands various meanings of social group, general implications of group membership, and different ways that groups function	45.67	150*
123 U.S. History	(29) Understands the struggle for racial and gender equality and for the extension of civil liberties	45.48	150
124 Behavioral Studies	(3) Understands that interactions among learning, inheritance, and physical development affect human behavior	45.16	147*
125 U.S. History	(26) Understands the economic boom and social transformation of post-World War II United States	44.71	150
126 Science	(2) Understands basic Earth processes	44.65	157*
End of Inclusion in the Curriculum (No Overlap Cut-Point)			
127 U.S. History	(3) Understands why the Americas attracted Europeans, why they brought enslaved Africans to their colonies, and how Europeans struggled for control of North America and the Caribbean	44.54	148
128 U.S. History	(15) Understands how various reconstruction plans succeeded or failed	44.52	148
129 Mathematics	(6) Understands and applies basic and advanced concepts of statistics and data analysis	44.50	150*
130 U.S. History	(12) Understands the sources and character of cultural, religious, and social reform movements in the antebellum period	44.05	145*
131 World History	(38) Understands reform, revolution, and social change in the world economy in the early century	43.81	132
132 Science	(6) Knows the general structure and functions of cells in organisms	43.66	146
133 Civics	(21) Understands the formation and implementation of public policy	43.59	128
134 U.S. History	(5) Understands how the values and institutions of European economic life took root in the colonies and how slavery reshaped European and African life in the Americas	42.84	144
135 Civics	(27) Understands how certain character traits enhance citizens' ability to fulfill personal and civic responsibilities	42.52	123
136 Language Arts	(6) Demonstrates competence in general skills and strategies for reading a variety of literary texts	42.51	124*
137 Mathematics	(2) Understands and applies basic and advanced properties of the concepts of numbers	42.50	147
138 Thinking and Reasoning	(2) Understands and applies basic principles of logic and reasoning	42.13	122
139 U.S. History	(9) Understands the United States territorial expansion between 1801 and 1861, and how it affected relations with external powers and Native Americans	42.02	139*
140 World History	(27) Understands how European society experienced political, economic, and cultural transformations in an age of global intercommunication between 1450 and 1750	41.87	142*
141 Historical Understanding	(2) Understands the historical perspective	41.42	126*

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Subject Area	Standard	Percent	N
142 U.S. History	(11) Understands the extension, restriction, and reorganization of political democracy after 1800	41.07	157*
143 U.S. History	(20) Understands how Progressives and others addressed problems of industrial capitalism, urbanization, and political corruption	41.01	138*
144 U.S. History	(28) Understands domestic policies in the post-World War II period	40.79	171
145 U.S. History	(31) Understands economic, social, and cultural developments in the contemporary United States	40.37	136
146 Civics	(7) Understands alternative forms of representation and how they serve the purposes of constitutional government	40.32	118
147 Civics	(22) Understands how the world is organized politically into nation-states, how nation-states interact with one another, and issues surrounding U.S. foreign policy	39.58	116*
148 Physical Education	(2) Uses movement concepts and principles in the development of motor skills	39.41	130*
149 Thinking and Reasoning	(6) Applies decision-making techniques	38.93	116
150 Civics	(19) Understands what is meant by "the public agenda," how it is set, and how it is influenced by public opinion and the media	38.87	116
151 Geography	(4) Understands the physical and human characteristics of place	38.51	118*
End of Inclusion in Curriculum (20% Overlap Cut-Point)			
152 Science	(10) Understands basic concepts about the structure and properties of matter	38.37	126
153 Foreign Language	(1) Uses the target language to engage in conversations, express feelings and emotions, and exchange opinions and information	38.04	127*
154 World History	(32) Understands the causes and consequences of political revolutions in the late 18th and early 19th centuries	37.78	125
155 Economics	(2) Understands characteristics of different economic systems, economic institutions, and economic incentives	37.35	112*
156 Foreign Language	(5) Recognizes that different languages use different patterns to communicate and applies this knowledge to the native language	37.23	126
157 World History	(31) Understands major global trends from 1450 to 1770	36.93	118
158 Economics	(8) Understands basic concepts of United States fiscal policy and monetary policy	36.87	108
159 Science	(9) Understands the basic concepts of the evolution of species	36.59	118
160 U.S. History	(17) Understands massive immigration after 1870 and how new social patterns, conflicts, and ideas of national unity developed amid growing cultural diversity	36.24	118
161 Civics	(6) Understands the advantages and disadvantages of federal, confederal, and unitary systems of government	36.17	109
162 Economics	(9) Understands how Gross Domestic Product and inflation and deflation provide indications of the state of the economy	36.00	107*
163 U.S. History	(19) Understands federal Indian policy and United States foreign policy after the Civil War	35.92	125*
164 Science	(13) Knows the kinds of forces that exist between objects and within atoms	35.77	115

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Subject Area	Standard	Percent	N
165 Mathematics	(5) Understands and applies basic and advanced properties of the concepts of geometry	35.40	119
166 Economics	(1) Understands that scarcity of productive resources requires choices that generate opportunity costs	35.37	104*
167 Geography	(18) Understands global development and environmental issues	35.22	107*
168 Civics	(23) Understands the impact of significant political and nonpolitical developments on the United States and other nations	35.20	109
169 World History	(37) Understands major global trends from 1750 to 1914	33.75	113
170 Civics	(12) Understands the relationships among liberalism, republicanism, and American constitutional democracy	33.72	105
171 Civics	(10) Understands the roles of voluntarism and organized groups in American social and political life	32.99	98
172 World History	(34) Understands how Eurasian societies were transformed in an era of global trade and the emergence of European power from 1750 to 1870	32.88	104
173 Civics	(14) Understands issues concerning the disparities between ideals and reality in American political and social life	32.76	100
174 Music	(7) Understands the relationship between music and history and culture	32.52	99
175 Science	(12) Understands motion and the principles that explain it	32.40	107
176 Geography	(10) Understands the nature and complexity of Earth's cultural mosaics	31.99	101*
177 World History	(28) Understands how large territorial empires dominated much of Eurasia between the 16th and 18th centuries	31.92	120
178 Geography	(9) Understands the nature, distribution, and migration of human populations on Earth's surface	31.60	90*
179 Historical Understanding	(1) Understands and knows how to analyze chronological relationships and patterns	31.09	79*
180 Mathematics	(8) Understands and applies basic and advanced properties of functions and algebra	31.02	104*
181 Geography	(2) Knows the location of places, geographic features, and patterns of the environment	30.70	93*
182 World History	(4) Understands how agrarian societies spread and new states emerged in the third and second millennia BCE	30.01	105
183 Geography	(17) Understands how geography is used to interpret the past	29.20	88
184 World History	(8) Understands how Aegean civilization emerged and how interrelations developed among peoples of the eastern Mediterranean and Southwest Asia from 600 to 200 BCE	29.08	92
185 Economics	(10) Understands basic concepts about international economics	28.92	82
186 Mathematics	(7) Understands and applies basic and advanced concepts of probability	28.61	90
187 Geography	(12) Understands the patterns of human settlement and their causes	28.51	84*
188 Geography	(6) Understands that culture and experience influence people's perceptions of places and regions	28.45	87*

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Subject Area	Standard	Percent	N
189 Civics	(13) Understands the character of American political and social conflict and factors that tend to prevent or lower its intensity	28.43	85
190 Thinking and Reasoning	(4) Understands and applies basic principles of hypothesis testing and scientific inquiry	28.36	137
191 Geography	(3) Understands the characteristics and uses of spatial organization of Earth's surface	28.21	87*
192 Physical Education	(1) Uses a variety of basic and advanced movement forms	27.92	92
193 Foreign Language	(4) Demonstrates knowledge and understanding of traditional ideas and perspectives, institutions, professions, literary and artistic expressions, and other components of target culture	27.65	95*
194 World History	(1) Understands the biological and cultural processes that shaped the earliest human communities	27.52	94*
195 Science	(4) Knows about the diversity and unity that characterize life	27.14	88
196 Geography	(11) Understands the patterns and networks of economic interdependence on Earth's surface	27.00	80*
197 Visual Arts	(4) Understands the visual arts in relation to history and cultures	26.69	80
198 Geography	(13) Understands the forces of cooperation and conflict that shape the divisions of Earth's surface	26.53	80*
199 Music	(1) Sings, alone and with others, a varied repertoire of music	26.53	79
200 World History	(11) Understands major global trends from 1000 BCE to 300 CE	26.11	88
201 World History	(9) Understands how major religious and large-scale empires arose in the Mediterranean Basin, China, and India from 500 BCE to 300 CE	26.11	88
202 World History	(2) Understands the processes that contributed to the emergence of agricultural societies around the world	26.06	90
203 U.S. History	(1) Understands the characteristics of societies in the Americas, Western Europe, and Western Africa that increasingly interacted after 1450	25.39	84*
204 Art Connections	(1) Understands connections among the various art forms and other disciplines	24.69	72
205 World History	(23) Understands patterns of crisis and recovery in Afro-Eurasia between 1300 and 1450	23.95	77*
206 Geography	(5) Understands the concept of regions	23.88	72*
207 Visual Arts	(5) Understands the characteristics and merits of one's own artwork and the artwork of others	23.55	71
208 World History	(5) Understands the political, social, and cultural consequences of population movements and militarization in Eurasia in the second millennium BCE	23.28	78
209 Foreign Language	(2) Comprehends and interprets written and spoken language on diverse topics from diverse media	23.28	77*
210 Dance	(6) Understands connections between dance and healthful living	22.56	66
211 Visual Arts	(2) Knows how to use the structures (e.g., sensory qualities, organizational principles, expressive features) and functions of art	22.39	123
212 Visual Arts	(1) Understands and applies media, techniques, and processes related to the visual arts	21.47	64

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Subject Area	Standard	Percent	N
213. Visual Arts	(3) Knows a range of subject matter, symbols, and potential ideas in the visual arts	21.39	63
214. Theatre	(5) Understands how informal and formal theatre, film, television, and electronic media productions create and communicate meaning	21.19	62
215. World History	(21) Understands the rise of the Mongol empire and its consequences for Eurasian peoples from 1200 to 1350	20.52	64
216. Dance	(5) Understands dance in various cultures and historical periods	20.38	60
217. World History	(24) Understands the expansion of states and civilizations in the Americas between 1000 and 1500	19.49	64
218. World History	(25) Understands major global trends from 1000 to 1500 CE	19.49	64
219. Theatre	(6) Understands the context in which theatre, film, television, and electronic media are performed today as well as in the past	19.29	59
220. Theatre	(2) Uses acting skills	19.07	57
221. World History	(30) Understands transformations in Asian societies in the era of European expansion	19.06	62
222. World History	(10) Understands how early agrarian civilizations arose in Mesoamerica	18.78	61
223. World History	(17) Understands the rise of centers of civilization in Mesoamerica and Andean South America in the first millennium CE	18.78	61
224. Foreign Language	(3) Presents information, concepts, and ideas to an audience of listeners or readers on a variety of topics	18.74	63*
225. World History	(12) Understands the Imperial crises and their aftermath in various regions from 300 to 700 CE	18.57	61*
226. World History	(15) Understands the political, social, and cultural redefinitions in Europe from 500 to 1000 CE	17.99	57
227. Dance	(3) Understands dance as a way to create and communicate meaning	17.98	52
228. World History	(6) Understands major trends in Eurasia and Africa from 4000 to 1000 BCE	17.80	59
229. World History	(3) Understands the major characteristics of civilization and the development of civilizations in Mesopotamia, Egypt, and the Indus Valley	17.80	59
230. World History	(18) Understands major global trends from 300 to 1000 CE	17.50	57*
231. World History	(20) Understands the redefinition of European society and culture from 1000 to 1300 CE	16.49	44
232. Music	(2) Performs on instruments, alone and with others, a varied repertoire of music	14.11	42
233. World History	(7) Understands technological and cultural innovation and change from 1000 to 600 BCE	14.02	46*
234. World History	(13) Understands the causes and consequences of the development of Islamic civilization between the 7th and 10th centuries	13.50	43
235. Music	(6) Knows and applies appropriate criteria to music and music performances	11.31	33
236. Theatre	(1) Demonstrates competence in writing scripts	11.02	33
237. Dance	(4) Applies critical and creative thinking skills in dance	10.64	31
238. Dance	(2) Understands choreographic principles, processes, and structures	9.35	28

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Subject Area	Standard	Percent	N
239 World History	(19) Understands the maturation of an interregional system of communication, trade, and cultural exchange during a period of Chinese economic power and Islamic expansion	9.26	29
240 Music	(3) Improvises melodies, variations, and accompaniments	8.93	26
241 Theatre	(4) Directs scenes and productions	8.81	26
242 Dance	(1) Identifies and demonstrates movement elements and skills in performing dance	8.73	26
243 Music	(5) Reads and notates music	8.64	26
244 Music	(4) Composes and arranges music within specified guidelines	8.48	22
245 World History	(14) Understands major developments in East Asia and Southeast Asia in the era of the Tang Dynasty from 600 to 900 CE	8.30	27
246 Theatre	(3) Designs and produces informal and formal productions	7.49	22
247 World History	(16) Understands the development of agricultural societies and new states in tropical Africa and Oceania	6.86	22
248 World History	(22) Understands the growth of states, towns, and trade in Sub-Saharan Africa between the 11th and 15th centuries	5.52	18

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APPENDIX F
45 YEARS OF AGE AND OLDER

	Subject Area	Standard	Percent	N
1	Health	(9) Understands aspects of substance use and abuse	90.86	293
2	Language Arts	(3) Uses grammatical and mechanical conventions in written compositions	81.88	206
3	Health	(8) Knows essential concepts about the prevention and control of disease	80.56	263
4	Health	(3) Understands the relationship of family health to individual health	79.41	257
5	Life Work	(8) Operates effectively within organizations	76.96	193
6	Life Work	(7) Displays reliability and a basic work ethic	76.96	193
7	U.S. History	(6) Understands the causes of the American Revolution, the ideas and interests involved in shaping the revolutionary movement, and reasons for the American victory	75.11	228
8	Geography	(1) Understands the characteristics and uses of maps, globes, and other geographic tools and technologies	74.73	195
9	Civics	(24) Understands the meaning of citizenship in the United States, and knows the requirements for citizenship and naturalization	74.62	188
10	Health	(4) Knows how to maintain mental and emotional health	74.15	240
11	Health	(1) Knows the availability and effective use of health services, products, and information	73.24	239
12	Health	(10) Understands the fundamental concepts of growth and development	73.15	235*
13	Life Work	(3) Manages money effectively	72.55	182
14	Health	(5) Knows essential concepts and practices concerning injury prevention and safety	72.55	237
15	Health	(6) Understands essential concepts about nutrition and diet	72.50	235
16	U.S. History	(13) Understands the causes of the Civil War	72.41	216
17	Life Work	(5) Makes general preparation for entering the work force	71.98	180
18	Technology	(2) Knows the characteristics and uses of computer software programs	71.78	220
19	Life Work	(4) Pursues specific jobs	71.73	180
20	Civics	(3) Understands the sources, purposes, and functions of law and the importance of the rule of law for the protection of individual rights and the common good	71.39	179
21	Health	(7) Knows how to maintain and promote personal health	71.34	231
22	U.S. History	(25) Understands the causes and course of World War II, the character of the war at home and abroad, and its reshaping of the U.S. role in world affairs	70.96	213
23	Civics	(8) Understands the central ideas of American constitutional government and how this form of government has shaped the character of American society	70.46	59
24	Life Work	(6) Makes effective use of basic life skills	70.25	176
25	Mathematics	(4) Understands and applies basic and advanced properties of the concepts of measurement	68.01	212

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	Subject Area	Standard	Percent	N
26.	Working with Others	(3) Works well with diverse individuals and in diverse situations	67.71	168
27.	Working with Others	(4) Displays effective interpersonal communication skills	67.43	167
28.	World History	(41) Understands the causes and global consequences of World War II	67.05	212
29.	Civics	(1) Understands ideas about civic life, politics, and government	66.68	168
30.	U.S. History	(23) Understands the causes of the Great Depression and how it affected American society	66.59	202
31.	Mathematics	(3) Uses basic and advanced procedures while performing the processes of computation	66.36	210*
32.	Self-Regulation	(3) Considers risks	66.26	166
33.	Mathematics	(9) Understands the general nature and uses of mathematics	65.77	208
34.	Science	(2) Understands basic Earth processes	65.32	124*
35.	Civics	(15) Understands how the United States Constitution grants and distributes power and responsibilities to national and state government and how it seeks to prevent the abuse of power	65.28	165*
36.	Civics	(9) Understands the importance of Americans sharing and supporting certain values, beliefs, and principles of American constitutional democracy	65.11	165
37.	World History	(40) Understands the search for peace and stability throughout the world in the 1920s and 1930s	64.87	205
38.	Technology	(1) Knows the characteristics and uses of computer hardware and operating systems	64.46	196
39.	Civics	(4) Understands the concept of a constitution, the various purposes that constitutions serve, and the conditions that contribute to the establishment and maintenance of constitutional government	64.12	162
40.	Language Arts	(7) Demonstrates competence in the general skills and strategies for reading a variety of informational texts	63.33	159*
41.	Self-Regulation	(5) Maintains a healthy self-concept	63.10	157
42.	Geography	(8) Understands the characteristics of ecosystems on Earth's surface	63.00	160*
43.	Self-Regulation	(6) Restrains impulsivity	62.72	157
44.	U.S. History	(2) Understands cultural and ecological interactions among previously unconnected people resulting from early European exploration and colonization	61.50	186
45.	Health	(2) Knows environmental and external factors that affect individual and community health	61.22	200
46.	U.S. History	(7) Understands the impact of the American Revolution on politics, economy, and society	61.10	287
47.	Geography	(16) Understands the changes that occur in the meaning, use, distribution, and importance of resources	60.93	157*
48.	Civics	(2) Understands the essential characteristics of limited and unlimited governments	60.69	151
49.	World History	(45) Understands major global trends since Word War II	60.14	189*

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	Subject Area	Standard	Percent	N
50.	U.S. History	(24) Understands how the New Deal addressed the Great Depression, transformed American federalism, and initiated the welfare state	59.68	182
51.	Physical Education	(5) Understands the social and personal responsibility associated with participation in physical activity	59.51	168
52.	U.S. History	(4) Understands how political, religious, and social institutions emerged in the North American colonies	58.82	178
53.	Economics	(6) Understands the roles government plays in the United States economy	58.56	146*
54.	Civics	(16) Understands the major responsibilities of the national government for domestic and foreign policy, and understands how government is financed through taxation	58.34	147
55.	U.S. History	(22) Understands how the United States changed between the post-World War I years and the eve of the Great Depression	57.97	175
56.	Civics	(18) Understands the role and importance of law in the American constitutional system and issues regarding the judicial protection of individual rights	57.86	145*
57.	U.S. History	(16) Understands how the rise of corporations, heavy industry, and mechanized farming transformed American society	57.82	173
58.	Science	(7) Understands how species depend on one another and on the environment for survival	57.79	177
59.	Language Arts	(2) Demonstrates competence in the stylistic and rhetorical aspects of writing	57.77	144
60.	Mathematics	(1) Uses a variety of strategies in the problem-solving process	57.74	181
61.	Thinking and Reasoning	(5) Applies basic trouble-shooting and problem-solving techniques	57.70	142
62.	Language Arts	(1) Demonstrates competence in the general skills and strategies of the writing process	57.67	143*
63.	World History	(43) Understands how post-World War II reconstruction occurred, new international power relations took shape, and colonial empires broke up	57.46	180*
64.	Thinking and Reasoning	(3) Effectively uses mental processes that are based on identifying similarities and differences (compares, contrasts, classifies)	57.35	141
65.	U.S. History	(8) Understands the institutions and practices of government created during the revolution and how these elements were revised between 1787 and 1815 to create the foundation of the American political system based on the U.S. Constitution and the Bill of Rights	57.27	172
66.	U.S. History	(14) Understands the course and character of the Civil War and its effects on the American people	57.24	171*
67.	Thinking and Reasoning	(1) Understands and applies the basic principles of presenting an argument	57.21	140
68.	Self-Regulation	(1) Sets and manages goals	56.96	141
69.	World History	(44) Understands the search for community, stability, and peace in an interdependent world	56.76	179
70.	U.S. History	(26) Understands the economic boom and social transformation of post-World War II United States	56.29	169
71.	U.S. History	(27) Understands how the Cold War and conflicts in Korea and Vietnam influenced domestic and international politics	56.13	163

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	Subject Area	Standard	Percent	N
72.	Geography	(7) Knows the physical processes that shape patterns on Earth's surface	56.11	143*
73.	Geography	(14) Understands how human actions modify the physical environment	55.30	141*
74.	Science	(1) Understands basic features of the Earth	55.29	201
75.	Self-Regulation	(4) Demonstrates perseverance	55.15	138
76.	Self-Regulation	(2) Performs self-appraisal	54.94	136
77.	U.S. History	(29) Understands the struggle for racial and gender equality and for the extension of civil liberties	54.67	164
78.	U.S. History	(28) Understands domestic policies in the post-World War II period	54.28	169
79.	Working with Others	(1) Contributes to the overall effort of a group	54.14	133
80.	Life Work	(1) Makes effective use of basic tools	54.06	133
81.	Civics	(11) Understands the role of diversity in American life and the importance of shared values, political beliefs, and civic beliefs in an increasingly diverse American society	53.98	136
82.	Behavioral Studies	(1) Understands that group and cultural influences contribute to human development, identity, and behavior	53.67	157*
83.	U.S. History	(21) Understands the changing role of the United States in world affairs through World War I	53.47	162
84.	Civics	(20) Understands the roles of political parties, campaigns, elections, and associations and groups in American politics	53.46	135*
85.	Working with Others	(2) Uses conflict-resolution techniques	53.16	100
86.	Language Arts	(5) Demonstrates competence in the general skills and strategies of the reading process	53.07	93*
87.	U.S. History	(10) Understands how the industrial revolution, increasing immigration, the rapid expansion of slavery, and the westward movement changed American lives and led to regional tensions	52.86	157
88.	Working with Others	(5) Demonstrates leadership skills	52.64	130
89.	Civics	(28) Understands how participation in civic and political life can help citizens attain individual and public goals	52.54	132
90.	Civics	(29) Understands the importance of political leadership, public service, and a knowledgeable citizenry in American constitutional democracy	52.54	132
91.	Civics	(5) Understands the major characteristics of systems of shared powers and of parliamentary systems	52.39	131
92.	Language Arts	(4) Gathers and uses information for research purposes	52.39	129
93.	U.S. History	(3) Understands why the Americas attracted Europeans, why they brought enslaved Africans to their colonies, and how Europeans struggled for control of North America and the Caribbean	52.09	156
94.	World History	(46) Understands long-term changes and recurring patterns in world history	51.49	162*
95.	World History	(39) Understands the causes and global consequences of World War I	51.49	160

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Subject Area	Standard	Percent	N
96 World History	(42) Understands major global trends from 1900 to the end of World War II	51.49	160
97 U.S. History	(5) Understands how the values and institutions of European economic life took root in the colonies and how slavery reshaped European and African life in the Americas	51.43	154
98 U.S. History	(15) Understands how various reconstruction plans succeeded or failed	51.10	152
99 Economics	(3) Understands the concept of prices and the interaction of supply and demand in a market economy	50.80	126
100 Science	(16) Understands the scientific enterprise	50.03	141
101 U.S. History	(9) Understands the United States territorial expansion between 1801 and 1861, and how it affected relations with external powers and Native Americans	49.50	148*
102 Science	(5) Understands the genetic basis for the transfer of biological characteristics from one generation to the next	49.48	147
103 Science	(14) Understands the nature of scientific knowledge	49.42	137
104 Civics	(17) Understands issues concerning the relationship between state and local governments and the national government and issues pertaining to representation at all three levels of government	48.99	123
105 Life Work	(2) Uses various information sources, including those of a technical nature, to accomplish specific tasks	48.77	122
106 U.S. History	(18) Understands the rise of the American labor movement and how political issues reflected social and economic changes	48.75	147
107 Science	(11) Understands energy types, sources, and conversions, and their relationship to heat and temperature	48.27	144
108 Behavioral Studies	(3) Understands that interactions among learning, inheritance, and physical development affect human behavior	48.05	138*
109 U.S. History	(12) Understands the sources and character of cultural, religious, and social reform movements in the antebellum period	47.88	140*
110 Geography	(15) Understands how physical systems affect human systems	47.34	122*
111 U.S. History	(31) Understands economic, social, and cultural developments in the contemporary United States	47.18	141
112 Economics	(7) Understands savings, investment, and interest rates	47.07	116
113 Science	(8) Understands the cycling of matter and flow of energy through the living environment	46.91	138
114 Economics	(5) Understands unemployment, income, and income distribution in a market economy	46.44	116*
115 U.S. History	(17) Understands massive immigration after 1870 and how new social patterns, conflicts, and ideas of national unity developed amid growing cultural diversity	46.40	135
116 U.S. History	(30) Understands developments in foreign and domestic policies between the Nixon and Clinton presidencies	46.38	141
117 World History	(26) Understands how the transoceanic interlinking of all major regions of the world between 1450 and 1600 led to global transformations	45.70	144
118 U.S. History	(20) Understands how Progressives and others addressed problems of industrial capitalism, urbanization, and political corruption	45.55	136*

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Subject Area	Standard	Percent	N
119. Physical Education	(4) Understands how to monitor and maintain a health-enhancing level of physical fitness	45.41	174*
120. Historical Understanding	(2) Understands the historical perspective	45.37	114*
121. World History	(29) Understands the economic, political, and cultural interrelations among peoples of Africa, Europe, and the Americas between 1500 and 1750	45.25	139
122. Behavioral Studies	(2) Understands various meanings of social group, general implications of group membership, and different ways that groups function	45.18	134*
123. Civics	(26) Understands issues regarding the proper scope and limits of rights and the relationships among personal, political, and economic rights	45.17	112
124. Civics	(25) Understands issues regarding personal, political, and economic rights	45.17	112
125. Science	(3) Understands essential ideas about the composition and structure of the universe and the Earth's place in it	45.11	135
126. Geography	(18) Understands global development and environmental issues	44.99	114*
127. U.S. History	(11) Understands the extension, restriction, and reorganization of political democracy after 1800	44.91	133*
128. Language Arts	(8) Demonstrates competence in speaking and listening as tools for learning	44.64	112*
129. World History	(35) Understands patterns of nationalism, state-building, and social reform in Europe and the Americas from 1830 to 1914	44.10	137
130. Technology	(4) Understands the nature of technological design	43.53	127
131. World History	(36) Understands patterns of global change in the era of Western military and economic domination from 1850 to 1914	43.40	136
132. Economics	(4) Understands basic features of market structures and exchanges	42.99	105*
End of Inclusion in the Curriculum (No Overlap Cut-Point)			
133. Behavioral Studies	(4) Understands conflict, cooperation, and interdependence among individuals, groups, and institutions	42.73	130*
134. Science	(15) Understands the nature of scientific inquiry	42.48	117
135. Mathematics	(6) Understands and applies basic and advanced concepts of statistics and data analysis	42.33	130*
136. Geography	(4) Understands the physical and human characteristics of place	42.05	108*
137. World History	(33) Understands the causes and consequences of the agricultural and industrial revolutions from 1700 to 1850	41.80	128
138. Thinking and Reasoning	(2) Understands and applies basic principles of logic and reasoning	41.51	100
139. Civics	(21) Understands the formation and implementation of public policy	41.21	104
140. Civics	(7) Understands alternative forms of representation and how they serve the purposes of constitutional government	41.12	100
141. Physical Education	(3) Understands the benefits and costs associated with participation in physical activity	41.03	137*
142. Science	(6) Knows the general structure and functions of cells in organisms	41.01	122

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Subject Area	Standard	Percent	N
143 Technology	(3) Understands relationships among science, technology, society, and the individual	40.94	123
144 Economics	(2) Understands characteristics of different economic systems, economic institutions, and economic incentives	39.84	97*
145 Technology	(5) Understands the nature and operation of systems	39.64	118
146 Language Arts	(6) Demonstrates competence in general skills and strategies for reading a variety of literary texts	39.61	97*
147 Mathematics	(2) Understands and applies basic and advanced properties of the concepts of numbers	39.02	121
148 U.S. History	(19) Understands federal Indian policy and United States foreign policy after the Civil War	39.01	116*
149 Civics	(19) Understands what is meant by "the public agenda," how it is set, and how it is influenced by public opinion and the media	38.99	97
150 Science	(9) Understands the basic concepts of the evolution of species	38.51	111
151 Civics	(27) Understands how certain character traits enhance citizens' ability to fulfill personal and civic responsibilities	37.86	94
152 World History	(38) Understands reform, revolution, and social change in the world economy in the early century	37.70	139
153 World History	(27) Understands how European society experienced political, economic, and cultural transformations in an age of global intercommunication between 1450 and 1750	37.00	116*
154 Civics	(10) Understands the roles of voluntarism and organized groups in American social and political life	36.97	90
155 Civics	(12) Understands the relationships among liberalism, republicanism, and American constitutional democracy	36.60	91
156 Geography	(17) Understands how geography is used to interpret the past	36.46	93
157 Physical Education	(2) Uses movement concepts and principles in the development of motor skills	35.97	107*
158 Geography	(9) Understands the nature, distribution, and migration of human populations on Earth's surface	35.57	90*
End of Inclusion in the Curriculum (20% Overlap Cut-Point)			
159 Civics	(6) Understands the advantages and disadvantages of federal, confederal, and unitary systems of government	35.01	88
160 World History	(34) Understands how Eurasian societies were transformed in an era of global trade and the emergence of European power from 1750 to 1870	34.92	106
161 Mathematics	(5) Understands and applies basic and advanced properties of the concepts of geometry	34.83	106
162 Thinking and Reasoning	(6) Applies decision-making techniques	34.34	84
163 Civics	(22) Understands how the world is organized politically into nation-states, how nation-states interact with one another, and issues surrounding U.S. foreign policy	34.31	85*
164 Science	(12) Understands motion and the principles that explain it	34.08	101

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Subject Area	Standard	Percent	N
165. U.S. History	(1) Understands the characteristics of societies in the Americas, Western Europe, and Western Africa that increasingly interacted after 1450	33.79	101
166. Geography	(10) Understands the nature and complexity of Earth's cultural mosaics	33.75	86*
167. Science	(10) Understands basic concepts about the structure and properties of matter	33.01	97
168. Geography	(2) Knows the location of places, geographic features, and patterns of the environment	32.77	85*
169. Foreign Language	(5) Recognizes that different languages use different patterns to communicate and applies this knowledge to the native language	32.44	99*
170. Economics	(9) Understands how Gross Domestic Product and inflation and deflation provide indications of the state of the economy	32.38	79*
171. World History	(32) Understands the causes and consequences of political revolutions in the late 18th and early 19th centuries	31.81	98
172. Science	(13) Knows the kinds of forces that exist between objects and within atoms	31.68	90
173. World History	(37) Understands major global trends from 1750 to 1914	31.39	98
174. Economics	(1) Understands that scarcity of productive resources requires choices that generate opportunity costs	31.08	74*
175. Geography	(6) Understands that culture and experience influence people's perceptions of places and regions	31.04	80*
176. Civics	(23) Understands the impact of significant political and nonpolitical developments on the United States and other nations	31.01	77
177. Geography	(12) Understands the patterns of human settlement and their causes	30.61	76*
178. Economics	(8) Understands basic concepts of United States fiscal policy and monetary policy	30.57	74
179. Geography	(11) Understands the patterns and networks of economic interdependence on Earth's surface	30.49	76*
180. World History	(31) Understands major global trends from 1450 to 1770	29.81	906
181. World History	(2) Understands the processes that contributed to the emergence of agricultural societies around the world	29.63	94
182. Civics	(14) Understands issues concerning the disparities between ideals and reality in American political and social life	29.04	72
183. World History	(1) Understands the biological and cultural processes that shaped the earliest human communities	28.61	91*
184. Geography	(13) Understands the forces of cooperation and conflict that shape the divisions of Earth's surface	28.61	72*
185. Foreign Language	(1) Uses the target language to engage in conversations, express feelings and emotions, and exchange opinions and information	28.47	86*
186. Foreign Language	(4) Demonstrates knowledge and understanding of traditional ideas and perspectives, institutions, professions, literary and artistic expressions, and other components of target culture	28.36	85*
187. Historical Understanding	(1) Understands and knows how to analyze chronological relationships and patterns	28.26	83*
188. Thinking and Reasoning	(4) Understands and applies basic principles of hypothesis testing and scientific inquiry	28.12	109

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Subject Area	Standard	Percent	N
189 World History	(8) Understands how Aegean civilization emerged and how interrelations developed among peoples of the eastern Mediterranean and Southwest Asia from 600 to 200 BCE	27.92	84
190 Music	(7) Understands the relationship between music and history and culture	27.32	69
191 Geography	(3) Understands the characteristics and uses of spatial organization of Earth's surface	27.28	70*
192 Visual Arts	(4) Understands the visual arts in relation to history and cultures	26.87	65
193 World History	(28) Understands how large territorial empires dominated much of Eurasia between the 16th and 18th centuries	26.83	121
194 World History	(11) Understands major global trends from 1000 BCE to 300 CE	26.66	84
195 World History	(9) Understands how major religious and large-scale empires arose in the Mediterranean Basin, China, and India from 500 BCE to 300 CE	26.66	84
196 Science	(4) Knows about the diversity and unity that characterize life	26.61	76
197 Geography	(5) Understands the concept of regions	26.44	67*
198 Civics	(13) Understands the character of American political and social conflict and factors that tend to prevent or lower its intensity	25.74	61
199 Mathematics	(8) Understands and applies basic and advanced properties of functions and algebra	25.33	77*
200 World History	(4) Understands how agrarian societies spread and new states emerged in the third and second millennia BCE	24.90	79
201 World History	(5) Understands the political, social, and cultural consequences of population movements and militarization in Eurasia in the second millennium BCE	24.60	76
202 Art Connections	(1) Understands connections among the various art forms and other disciplines	24.09	57
203 Mathematics	(7) Understands and applies basic and advanced concepts of probability	23.68	71
204 Theatre	(5) Understands how informal and formal theatre, film, television, and electronic media productions create and communicate meaning	23.50	57
205 Visual Arts	(5) Understands the characteristics and merits of one's own artwork and the artwork of others	22.47	55
206 Economics	(10) Understands basic concepts about international economics	22.26	53
207 Visual Arts	(2) Knows how to use the structures (e.g., sensory qualities, organizational principles, expressive features) and functions of art	21.17	108
208 World History	(6) Understands major trends in Eurasia and Africa from 4000 to 1000 BCE	21.16	64
209 World History	(3) Understands the major characteristics of civilization and the development of civilizations in Mesopotamia, Egypt, and the Indus Valley	21.16	64
210 Dance	(6) Understands connections between dance and healthful living	21.04	50
211 Physical Education	(1) Uses a variety of basic and advanced movement forms	19.55	59
212 World History	(23) Understands patterns of crisis and recovery in Afro-Eurasia between 1300 and 1450	18.47	56*
213 World History	(10) Understands how early agrarian civilizations arose in Mesoamerica	18.14	56

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Subject Area	Standard	Percent	N
214. World History	(17) Understands the rise of centers of civilization in Mesoamerica and Andean South America in the first millennium CE	18.14	56
215. World History	(30) Understands transformations in Asian societies in the era of European expansion	17.85	54
216. Visual Arts	(3) Knows a range of subject matter, symbols, and potential ideas in the visual arts	17.75	44
217. World History	(25) Understands major global trends from 1000 to 1500 CE	17.70	53
218. World History	(24) Understands the expansion of states and civilizations in the Americas between 1000 and 1500	17.70	53
219. Music	(1) Sings, alone and with others, a varied repertoire of music	17.62	42
220. World History	(15) Understands the political, social, and cultural redefinitions in Europe from 500 to 1000 CE	16.83	49
221. Dance	(3) Understands dance as a way to create and communicate meaning	16.66	41
222. Theatre	(6) Understands the context in which theatre, film, television, and electronic media are performed today as well as in the past	16.56	41
223. World History	(12) Understands the Imperial crises and their aftermath in various regions from 300 to 700 CE	16.42	49*
224. World History	(20) Understands the redefinition of European society and culture from 1000 to 1300 CE	16.03	42
225. Dance	(5) Understands dance in various cultures and historical periods	15.62	37
226. Foreign Language	(2) Comprehends and interprets written and spoken language on diverse topics from diverse media	15.46	46*
227. World History	(18) Understands major global trends from 300 to 1000 CE	15.20	45*
228. World History	(21) Understands the rise of the Mongol empire and its consequences for Eurasian peoples from 1200 to 1350	14.89	44
229. World History	(7) Understands technological and cultural innovation and change from 1000 to 600 BCE	14.64	55*
230. Visual Arts	(1) Understands and applies media, techniques, and processes related to the visual arts	12.87	31
[illegible]reign Language	(3) Presents information, concepts, and ideas to an audience of listeners or readers on a variety of topics	12.63	38*
232. World History	(13) Understands the causes and consequences of the development of Islamic civilization between the 7th and 10th centuries	12.19	35
233. Music	(2) Performs on instruments, alone and with others, a varied repertoire of music	10.84	27
234. Theatre	(2) Uses acting skills	10.53	26
235. Theatre	(1) Demonstrates competence in writing scripts	9.01	22
236. Dance	(2) Understands choreographic principles, processes, and structures	8.85	22
237. World History	(16) Understands the development of agricultural societies and new states in tropical Africa and Oceania	8.83	26
238. Music	(6) Knows and applies appropriate criteria to music and music performances	8.07	20
239. Dance	(4) Applies critical and creative thinking skills in dance	7.81	18
240. World History	(19) Understands the maturation of an interregional system of communication, trade, and cultural exchange during a period of Chinese economic power and Islamic expansion	7.57	22

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Subject Area	Standard	Percent	N
241 World History	(14) Understands major developments in East Asia and Southeast Asia in the era of the Tang Dynasty, from 600 to 900 CE	7.29	21
242 World History	(22) Understands the growth of states, towns, and trade in Sub-Saharan Africa between the 11th and 15th centuries	6.49	19
243 Music	(5) Reads and notates music	6.39	16
244 Dance	(1) Identifies and demonstrates movement elements and skills in performing dance	6.22	15
245 Music	(3) Improvises melodies, variations, and accompaniments	5.92	14
246 Theatre	(4) Directs scenes and productions	5.51	13
247 Music	(4) Composes and arranges music within specified guidelines	5.08	13
248 Theatre	(3) Designs and produces informal and formal productions	4.75	11

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APPENDIX G
UNDER 45 YEARS OF AGE

	Subject Area	Standard	Percent	N
1	Health	(9) Understands aspects of substance use and abuse	88.39	318
2	Language Arts	(3) Uses grammatical and mechanical conventions in written compositions	84.60	276
3	Health	(3) Understands the relationship of family health to individual health	81.76	294
4	Technology	(2) Knows the characteristics and uses of computer software programs	80.29	280
5	Health	(8) Knows essential concepts about the prevention and control of disease	78.43	284
6	Health	(4) Knows how to maintain mental and emotional health	77.67	281
7	World History	(41) Understands the causes and global consequences of World War II	77.65	275
8	Geography	(1) Understands the characteristics and uses of maps, globes, and other geographic tools and technologies	75.23	244
9	Technology	(1) Knows the characteristics and uses of computer hardware and operating systems	75.11	259
10	Science	(7) Understands how species depend on one another and on the environment for survival	73.78	254
11	Science	(2) Understands basic Earth processes	72.33	175*
12	Mathematics	(9) Understands the general nature and uses of mathematics	72.02	260
13	World History	(40) Understands the search for peace and stability throughout the world in the 1920s and 1930s	71.61	253
14	Health	(6) Understands essential concepts about nutrition and diet	71.23	254
15	Health	(1) Knows the availability and effective use of health services, products, and information	70.98	256
16	Life Work	(3) Manages money effectively	70.96	236
17	U.S. History	(13) Understands the causes of the Civil War	70.17	244
18	Mathematics	(4) Understands and applies basic and advanced properties of the concepts of measurement	70.05	253
19	Life Work	(5) Makes general preparation for entering the work force	69.98	233
20	U.S. History	(6) Understands the causes of the American Revolution, the ideas and interests involved in shaping the revolutionary movement, and reasons for the American victory	69.95	242
21	Health	(5) Knows essential concepts and practices concerning injury prevention and safety	69.36	247
22	Life Work	(8) Operates effectively within organizations	68.54	226
23	Life Work	(7) Displays reliability and a basic work ethic	68.54	226
24	World History	(45) Understands major global trends since Word War II	68.32	243*
25	U.S. History	(23) Understands the causes of the Great Depression and how it affected American society	68.29	237
26	Self-Regulation	(3) Considers risks	67.66	223
27	Language Arts	(4) Gathers and uses information for research purposes	67.53	221

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	Subject Area	Standard	Percent	N
28	Language Arts	(7) Demonstrates competence in the general skills and strategies for reading a variety of informational texts	66.81	221*
29	Life Work	(6) Makes effective use of basic life skills	66.77	218
30	Mathematics	(3) Uses basic and advanced procedures while performing the processes of computation	66.73	240*
31	Life Work	(4) Pursues specific jobs	66.60	222
32	Civics	(4) Understands the concept of a constitution, the various purposes that constitutions serve, and the conditions that contribute to the establishment and maintenance of constitutional government	66.29	218
33	Working with Others	(3) Works well with diverse individuals and in diverse situations	66.23	215
34	Language Arts	(1) Demonstrates competence in the general skills and strategies of the writing process	66.13	217*
35	Health	(7) Knows how to maintain and promote personal health	66.05	238
36	Thinking and Reasoning	(5) Applies basic trouble-shooting and problem-solving techniques	66.01	217
37	Civics	(3) Understands the sources, purposes, and functions of law and the importance of the rule of law for the protection of individual rights and the common good	65.85	220
38	Health	(10) Understands the fundamental concepts of growth and development	65.54	235*
39	Working with Others	(4) Displays effective interpersonal communication skills	65.51	217
40	U.S. History	(7) Understands the impact of the American Revolution on politics, economy, and society	64.80	307
41	World History	(43) Understands how post-World War II reconstruction occurred, new international power relations took shape, and colonial empires broke up	64.35	228*
42	Civics	(24) Understands the meaning of citizenship in the United States, and knows the requirements for citizenship and naturalization	64.14	210
43	Civics	(1) Understands ideas about civic life, politics, and government	64.07	214
44	World History	(44) Understands the search for community, stability, and peace in an interdependent world	63.15	224
45	U.S. History	(25) Understands the causes and course of World War II, the character of the war at home and abroad, and its reshaping of the U.S. role in world affairs	63.08	218
46	Mathematics	(1) Uses a variety of strategies in the problem-solving process	63.00	226
47	Geography	(8) Understands the characteristics of ecosystems on Earth's surface	62.42	200*
48	Working with Others	(1) Contributes to the overall effort of a group	62.23	201
49	Science	(8) Understands the cycling of matter and flow of energy through the living environment	61.91	215
50	World History	(46) Understands long-term changes and recurring patterns in world history	61.58	218*
51	Language Arts	(2) Demonstrates competence in the stylistic and rhetorical aspects of writing	61.09	202
52	Civics	(8) Understands the central ideas of American constitutional government and how this form of government has shaped the character of American society	60.45	110

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Subject Area	Standard	Percent	N
53. Civics	(15) Understands how the United States Constitution grants and distributes power and responsibilities to national and state government and how it seeks to prevent the abuse of power	60.14	200*
54. World History	(39) Understands the causes and global consequences of World War I	60.11	213
55. World History	(42) Understands major global trends from 1900 to the end of World War II	60.11	213
56. Physical Education	(5) Understands the social and personal responsibility associated with participation in physical activity	59.93	202
57. Health	(2) Knows environmental and external factors that affect individual and community health	59.90	214
58. Self-Regulation	(2) Performs self-appraisal	59.83	198
59. Science	(5) Understands the genetic basis for the transfer of biological characteristics from one generation to the next	59.81	206
60. Civics	(9) Understands the importance of Americans sharing and supporting certain values, beliefs, and principles of American constitutional democracy	59.66	197
61. Self-Regulation	(1) Sets and manages goals	59.38	196
62. Self-Regulation	(5) Maintains a healthy self-concept	59.01	196
63. Science	(1) Understands basic features of the Earth	58.56	252
64. Science	(16) Understands the scientific enterprise	58.31	198
65. Thinking and Reasoning	(1) Understands and applies the basic principles of presenting an argument	58.28	192
66. World History	(35) Understands patterns of nationalism, state-building, and social reform in Europe and the Americas from 1830 to 1914	57.98	205
67. Geography	(7) Knows the physical processes that shape patterns on Earth's surface	57.54	184*
68. Life Work	(2) Uses various information sources, including those of a technical nature, to accomplish specific tasks	57.31	189
[illegible]nking and Reasoning	(3) Effectively uses mental processes that are based on identifying similarities and differences (compares, contrasts, classifies)	56.75	184
70. U.S. History	(22) Understands how the United States changed between the post-World War I years and the eve of the Great Depression	56.71	197
71. Self-Regulation	(6) Restrains impulsivity	56.57	187
72. Science	(14) Understands the nature of scientific knowledge	56.35	193
73. Civics	(11) Understands the role of diversity in American life and the importance of shared values, political beliefs, and civic beliefs in an increasingly diverse American society	56.11	182
74. Economics	(6) Understands the roles government plays in the United States economy	55.96	186*
75. U.S. History	(2) Understands cultural and ecological interactions among previously unconnected people resulting from early European exploration and colonization	55.81	190

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	Subject Area	Standard	Percent	N
76	U.S. History	(10) Understands how the industrial revolution, increasing immigration, the rapid expansion of slavery, and the westward movement changed American lives and led to regional tensions	55.75	194
77	Economics	(3) Understands the concept of prices and the interaction of supply and demand in a market economy	55.48	187
78	Technology	(4) Understands the nature of technological design	55.42	188
79	Working with Others	(2) Uses conflict-resolution techniques	55.06	179
80	Science	(3) Understands essential ideas about the composition and structure of the universe and the Earth's place in it	55.06	191
81	World History	(26) Understands how the transoceanic interlinking of all major regions of the world between 1450 and 1600 led to global transformations	54.58	187
82	Self-Regulation	(4) Demonstrates perseverance	54.51	180
83	Working with Others	(5) Demonstrates leadership skills	54.39	180
84	World History	(33) Understands the causes and consequences of the agricultural and industrial revolutions from 1700 to 1850	54.38	190
85	Language Arts	(5) Demonstrates competence in the general skills and strategies of the reading process	53.96	142*
86	Behavioral Studies	(1) Understands that group and cultural influences contribute to human development, identity, and behavior	53.76	184*
87	Civics	(18) Understands the role and importance of law in the American constitutional system and issues regarding the judicial protection of individual rights	53.76	177*
88	U.S. History	(4) Understands how political, religious, and social institutions emerged in the North American colonies	53.67	185
89	Civics	(16) Understands the major responsibilities of the national government for domestic and foreign policy, and understands how government is financed through taxation	53.30	175
90	Science	(6) Knows the general structure and functions of cells in organisms	53.19	183
91	Behavioral Studies	(2) Understands various meanings of social group, general implications of group membership, and different ways that groups function	52.65	181*
92	U.S. History	(14) Understands the course and character of the Civil War and its effects on the American people	52.42	179*
93	U.S. History	(29) Understands the struggle for racial and gender equality and for the extension of civil liberties	52.28	174
94	World History	(36) Understands patterns of global change in the era of Western military and economic domination from 1850 to 1914	52.19	183
95	Science	(11) Understands energy types, sources, and conversions, and their relationship to heat and temperature	51.94	180
96	Economics	(5) Understands unemployment, income, and income distribution in a market economy	51.89	172*
97	Mathematics	(6) Understands and applies basic and advanced concepts of statistics and data analysis	51.83	185*
98	Life Work	(1) Makes effective use of basic tools	51.78	172

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Subject Area	Standard	Percent	N
99. Science	(15) Understands the nature of scientific inquiry	51.21	172
100. U.S. History	(8) Understands the institutions and practices of government created during the revolution and how these elements were revised between 1787 and 1815 to create the foundation of the American political system based on the U.S. Constitution and the Bill of Rights	51.16	174
101. Science	(10) Understands basic concepts about the structure and properties of matter	51.02	174
102. World History	(29) Understands the economic, political, and cultural interrelations among peoples of Africa, Europe, and the Americas between 1500 and 1750	50.92	178
103. U.S. History	(21) Understands the changing role of the United States in world affairs through World War I	50.80	176
104. U.S. History	(27) Understands how the Cold War and conflicts in Korea and Vietnam influenced domestic and international politics	50.80	123
105. World History	(38) Understands reform, revolution, and social change in the world economy in the early century	50.66	134
106. U.S. History	(24) Understands how the New Deal addressed the Great Depression, transformed American federalism, and initiated the welfare state	50.64	176
107. Physical Education	(4) Understands how to monitor and maintain a health-enhancing level of physical fitness	50.36	205*
108. Civics	(17) Understands issues concerning the relationship between state and local governments and the national government and issues pertaining to representation at all three levels of government	50.11	164
109. U.S. History	(5) Understands how the values and institutions of European economic life took root in the colonies and how slavery reshaped European and African life in the Americas	49.97	172
110. U.S. History	(16) Understands how the rise of corporations, heavy industry, and mechanized farming transformed American society	49.65	167
111. U.S. History	(18) Understands the rise of the American labor movement and how political issues reflected social and economic changes	49.61	169
112. Economics	(7) Understands savings, investment, and interest rates	49.49	162
113. Technology	(3) Understands relationships among science, technology, society, and the individual	49.48	170
114. Civics	(2) Understands the essential characteristics of limited and unlimited governments	49.40	165
115. Civics	(20) Understands the roles of political parties, campaigns, elections, and associations and groups in American politics	49.30	162*
116. Civics	(5) Understands the major characteristics of systems of shared powers and of parliamentary systems	49.21	162
117. U.S. History	(3) Understands why the Americas attracted Europeans, why they brought enslaved Africans to their colonies, and how Europeans struggled for control of North America and the Caribbean	49.17	169
118. Technology	(5) Understands the nature and operation of systems	49.15	168
119. U.S. History	(12) Understands the sources and character of cultural, religious, and social reform movements in the antebellum period	48.67	166*
120. Civics	(29) Understands the importance of political leadership, public service, and a knowledgeable citizenry in American constitutional democracy	47.85	153

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Subject Area	Standard	Percent	N
121. Civics	(28) Understands how participation in civic and political life can help citizens attain individual and public goals	47.85	153
122. Language Arts	(6) Demonstrates competence in general skills and strategies for reading a variety of literary texts	47.55	154*
123. U.S. History	(31) Understands economic, social, and cultural developments in the contemporary United States	47.43	163
124. Behavioral Studies	(3) Understands that interactions among learning, inheritance, and physical development affect human behavior	47.27	161*
125. Mathematics	(2) Understands and applies basic and advanced properties of the concepts of numbers	47.09	170
126. U.S. History	(30) Understands developments in foreign and domestic policies between the Nixon and Clinton presidencies	46.83	159
127. Thinking and Reasoning	(6) Applies decision-making techniques	46.69	151
End of Inclusion in the Curriculum (No Overlap Cut-Point)			
128. U.S. History	(11) Understands the extension, restriction, and reorganization of political democracy after 1800	46.25	159*
129. U.S. History	(9) Understands the United States territorial expansion between 1801 and 1861, and how it affected relations with external powers and Native Americans	45.37	153*
130. Civics	(25) Understands issues regarding personal, political, and economic rights	45.36	149
131. Civics	(26) Understands issues regarding the proper scope and limits of rights and the relationships among personal, political, and economic rights	45.36	149
132. Language Arts	(8) Demonstrates competence in speaking and listening as tools for learning	45.21	148*
133. Thinking and Reasoning	(2) Understands and applies basic principles of logic and reasoning	45.20	147
134. World History	(27) Understands how European society experienced political, economic, and cultural transformations in an age of global intercommunication between 1450 and 1750	44.66	155*
135. Geography	(14) Understands how human actions modify the physical environment	44.65	144*
136. Economics	(4) Understands basic features of market structures and exchanges	44.56	146*
137. Science	(9) Understands the basic concepts of the evolution of species	44.46	150
138. Civics	(21) Understands the formation and implementation of public policy	44.32	142
139. Geography	(15) Understands how physical systems affect human systems	43.98	138*
140. U.S. History	(15) Understands how various reconstruction plans succeeded or failed	43.50	148
141. World History	(37) Understands major global trends from 1750 to 1914	43.28	151
142. Behavioral Studies	(4) Understands conflict, cooperation, and interdependence among individuals, groups, and institutions	42.70	133*
143. U.S. History	(26) Understands the economic boom and social transformation of post-World War II United States	42.55	144
144. Geography	(16) Understands the changes that occur in the meaning, use, distribution, and importance of resources	42.49	134*

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Subject Area	Standard	Percent	N
145. Thinking and Reasoning	(4) Understands and applies basic principles of hypothesis testing and scientific inquiry	41.76	127
146. U.S. History	(20) Understands how Progressives and others addressed problems of industrial capitalism, urbanization, and political corruption	41.43	142*
147. Historical Understanding	(2) Understands the historical perspective	41.24	132*
148. Physical Education	(2) Uses movement concepts and principles in the development of motor skills	41.23	140*
149. Economics	(9) Understands how Gross Domestic Product and inflation and deflation provide indications of the state of the economy	41.13	135*
150. Civics	(22) Understands how the world is organized politically into nation-states, how nation-states interact with one another, and issues surrounding U.S. foreign policy	40.92	132*
151. Foreign Language	(1) Uses the target language to engage in conversations, express feelings and emotions, and exchange opinions and information	40.84	146*
152. World History	(34) Understands how Eurasian societies were transformed in an era of global trade and the emergence of European power from 1750 to 1870	40.65	136
End of Inclusion in the Curriculum (20% Overlap Cut-Point)			
153. Economics	(2) Understands characteristics of different economic systems, economic institutions, and economic incentives	40.12	133*
154. Economics	(1) Understands that scarcity of productive resources requires choices that generate opportunity costs	39.89	129*
155. Civics	(6) Understands the advantages and disadvantages of federal, confederal, and unitary systems of government	39.89	131
156. World History	(31) Understands major global trends from 1450 to 1770	39.41	135
157. Physical Education	(3) Understands the benefits and costs associated with participation in physical activity	38.95	135*
158. Music	(7) Understands the relationship between music and history and culture	38.69	124
159. World History	(32) Understands the causes and consequences of political revolutions in the late 18th and early 19th centuries	38.68	134
160. Foreign Language	(5) Recognizes that different languages use different patterns to communicate and applies this knowledge to the native language	38.47	139*
161. Civics	(27) Understands how certain character traits enhance citizens' ability to fulfill personal and civic responsibilities	38.28	120
162. Science	(12) Understands motion and the principles that explain it	38.17	128
163. Science	(4) Knows about the diversity and unity that characterize life	37.87	131
164. U.S. History	(17) Understands massive immigration after 1870 and how new social patterns, conflicts, and ideas of national unity developed amid growing cultural diversity	37.13	127
165. U.S. History	(19) Understands federal Indian policy and United States foreign policy after the Civil War	37.08	124*
166. Civics	(7) Understands alternative forms of representation and how they serve the purposes of constitutional government	36.98	119
167. Science	(13) Knows the kinds of forces that exist between objects and within atoms	36.46	123

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Subject Area	Standard	Percent	N
168 Geography	(4) Understands the physical and human characteristics of place	36.27	115*
169 U.S. History	(28) Understands domestic policies in the post-World War II period	36.09	174
170 Historical Understanding	(1) Understands and knows how to analyze chronological relationships and patterns	35.91	95*
171 Civics	(19) Understands what is meant by "the public agenda," how it is set, and how it is influenced by public opinion and the media	35.56	115
172 World History	(4) Understands how agrarian societies spread and new states emerged in the third and second millennia BCE	35.53	127
173 Mathematics	(5) Understands and applies basic and advanced properties of the concepts of geometry	35.18	124
174 Civics	(12) Understands the relationships among liberalism, republicanism, and American constitutional democracy	35.02	118
175 Economics	(8) Understands basic concepts of United States fiscal policy and monetary policy	34.94	113
176 Mathematics	(7) Understands and applies basic and advanced concepts of probability	34.82	125
177 Civics	(14) Understands issues concerning the disparities between ideals and reality in American political and social life	34.66	115
178 Mathematics	(8) Understands and applies basic and advanced properties of functions and algebra	34.48	121*
179 Geography	(2) Knows the location of places, geographic features, and patterns of the environment	33.27	106*
180 Civics	(10) Understands the roles of voluntarism and organized groups in American social and political life	33.14	109
181 Geography	(10) Understands the nature and complexity of Earth's cultural mosaics	32.66	102*
182 Civics	(23) Understands the impact of significant political and nonpolitical developments on the United States and other nations	32.40	104
183 Economics	(10) Understands basic concepts about international economics	31.88	103
184 Geography	(17) Understands how geography is used to interpret the past	30.98	97
185 World History	(8) Understands how Aegean civilization emerged and how interrelations developed among peoples of the eastern Mediterranean and Southwest Asia from 600 to 200 BCE	30.69	105
186 World History	(28) Understands how large territorial empires dominated much of Eurasia between the 16th and 18th centuries	30.11	143
187 Geography	(9) Understands the nature, distribution, and migration of human populations on Earth's surface	29.60	94*
188 World History	(1) Understands the biological and cultural processes that shaped the earliest human communities	29.35	103*
189 Civics	(13) Understands the character of American political and social conflict and factors that tend to prevent or lower its intensity	29.05	96
190 U.S. History	(1) Understands the characteristics of societies in the Americas, Western Europe, and Western Africa that increasingly interacted after 1450	29.03	97
191 Visual Arts	(4) Understands the visual arts in relation to history and cultures	28.61	92
192 World History	(5) Understands the political, social, and cultural consequences of population movements and militarization in Eurasia in the second millennium BCE	28.58	99

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Subject Area	Standard	Percent	N
193. Geography	(6) Understands that culture and experience influence people's perceptions of places and regions	27.90	90*
194. World History	(11) Understands major global trends from 1000 BCE to 300 CE	27.43	179
195. World History	(9) Understands how major religious and large-scale empires arose in the Mediterranean Basin, China, and India from 500 BCE to 300 CE	27.43	95
196. World History	(2) Understands the processes that contributed to the emergence of agricultural societies around the world	27.21	96
197. World History	(23) Understands patterns of crisis and recovery in Afro-Eurasia between 1300 and 1450	26.97	93*
198. Art Connections	(1) Understands connections among the various art forms and other disciplines	26.67	83
199. Geography	(18) Understands global development and environmental issues	26.64	84*
200. Physical Education	(1) Uses a variety of basic and advanced movement forms	26.59	89
201. Geography	(12) Understands the patterns of human settlement and their causes	25.92	80*
202. Visual Arts	(5) Understands the characteristics and merits of one's own artwork and the artwork of others	25.79	83
203. Geography	(3) Understands the characteristics and uses of spatial organization of Earth's surface	25.55	81*
204. Geography	(13) Understands the forces of cooperation and conflict that shape the divisions of Earth's surface	24.82	78*
205. World History	(15) Understands the political, social, and cultural redefinitions in Europe from 500 to 1000 CE	24.61	84
206. Geography	(11) Understands the patterns and networks of economic interdependence on Earth's surface	24.32	76*
207. Foreign Language	(2) Comprehends and interprets written and spoken language on diverse topics from diverse media	24.19	87*
208. Visual Arts	(2) Knows how to use the structures (e.g., sensory qualities, organizational principles, expressive features) and functions of art	24.03	151
209. Geography	(5) Understands the concept of regions	23.98	75*
210. Music	(1) Sings, alone and with others, a varied repertoire of music	23.80	76
211. Foreign Language	(4) Demonstrates knowledge and understanding of traditional ideas and perspectives, institutions, professions, literary and artistic expressions, and other components of target culture	23.51	104*
212. Theatre	(5) Understands how informal and formal theatre, film, television, and electronic media productions create and communicate meaning	23.11	74
213. Theatre	(6) Understands the context in which theatre, film, television, and electronic media are performed today as well as in the past	22.16	71
214. World History	(24) Understands the expansion of states and civilizations in the Americas between 1000 and 1500	21.26	73
215. World History	(25) Understands major global trends from 1000 to 1500 CE	21.26	73
216. World History	(3) Understands the major characteristics of civilization and the development of civilizations in Mesopotamia, Egypt, and the Indus Valley	21.19	75
217. World History	(6) Understands major trends in Eurasia and Africa from 4000 to 1000 BCE	21.19	75

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Subject Area	Standard	Percent	N
218 World History	(12) Understands the Imperial crises and their aftermath in various regions from 300 to 700 CE	21.08	73*
219 World History	(21) Understands the rise of the Mongol empire and its consequences for Eurasian peoples from 1200 to 1350	20.93	70
220 Visual Arts	(1) Understands and applies media, techniques, and processes related to the visual arts	20.91	67
221 Visual Arts	(3) Knows a range of subject matter, symbols, and potential ideas in the visual arts	20.73	64
222 World History	(30) Understands transformations in Asian societies in the era of European expansion	20.65	71
*223 World History	(10) Understands how early agrarian civilizations arose in Mesoamerica	20.26	70
224 World History	(17) Understands the rise of centers of civilization in Mesoamerica and Andean South America in the first millennium CE	20.26	70
225 World History	(18) Understands major global trends from 300 to 1000 CE	19.71	69*
226 Dance	(5) Understands dance in various cultures and historical periods	18.86	60
227 Dance	(3) Understands dance as a way to create and communicate meaning	18.82	60
228 Dance	(6) Understands connections between dance and healthful living	17.81	57
229 World History	(20) Understands the redefinition of European society and culture from 1000 to 1300 CE	16.23	45
230 Foreign Language	(3) Presents information, concepts, and ideas to an audience of listeners or readers on a variety of topics	15.61	56*
231 World History	(7) Understands technological and cultural innovation and change from 1000 to 600 BCE	15.09	52*
232 Music	(2) Performs on instruments, alone and with others, a varied repertoire of music	14.23	45
233 Theatre	(2) Uses acting skills	13.24	42
234 World History	(13) Understands the causes and consequences of the development of Islamic civilization between the 7th and 10th centuries	13.12	45
235 Music	(6) Knows and applies appropriate criteria to music and music performances	10.90	34
236 World History	(14) Understands major developments in East Asia and Southeast Asia in the era of the Tang Dynasty from 600 to 900 CE	10.37	35
237 Music	(5) Reads and notates music	9.51	30
238 World History	(19) Understands the maturation of an interregional system of communication, trade, and cultural exchange during a period of Chinese economic power and Islamic expansion	9.44	32
239 Dance	(4) Applies critical and creative thinking skills in dance	9.35	29
240 World History	(16) Understands the development of agricultural societies and new states in tropical Africa and Oceania	8.16	27
241 Music	(3) Improvises melodies, variations, and accompaniments	8.13	26
242 Theatre	(1) Demonstrates competence in writing scripts	7.76	25
243 Music	(4) Composes and arranges music within specified guidelines	6.96	21
244 Dance	(1) Identifies and demonstrates movement elements and skills in performing dance	6.84	21

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Subject Area	Standard	Percent	N
245 World History	(22) Understands the growth of states, towns, and trade in Sub-Saharan Africa between the 11th and 15th centuries	6.35	22
246 Theatre	(4) Directs scenes and productions	5.82	19
247 Theatre	(3) Designs and produces informal and formal productions	5.71	18
248 Dance	(2) Understands choreographic principles, processes, and structures	5.30	17

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APPENDIX H
50K OR MORE INCOME

	Subject Area	Standard	Percent	N
1	Language Arts	(3) Uses grammatical and mechanical conventions in written compositions	88.36	142
2	Health	(9) Understands aspects of substance use and abuse	82.23	165
3	Technology	(2) Knows the characteristics and uses of computer software programs	80.34	162
4	U.S. History	(13) Understands the causes of the Civil War	78.96	157
5	U.S. History	(6) Understands the causes of the American Revolution, the ideas and interests involved in shaping the revolutionary movement, and reasons for the American victory	77.42	156
6	Geography	(1) Understands the characteristics and uses of maps, globes, and other geographic tools and technologies	77.05	148
7	Science	(1) Understands basic features of the Earth	75.72	153
8	Health	(3) Understands the relationship of family health to individual health	75.03	148
9	Science	(7) Understands how species depend on one another and on the environment for survival	74.54	149
10	World History	(41) Understands the causes and global consequences of World War II	73.61	147
11	Language Arts	(1) Demonstrates competence in the general skills and strategies of the writing process	73.35	117*
12	Life Work	(8) Operates effectively within organizations	73.18	115
13	Life Work	(7) Displays reliability and a basic work ethic	73.18	115
14	Language Arts	(7) Demonstrates competence in the general skills and strategies for reading a variety of informational texts	73.09	117*
15	U.S. History	(25) Understands the causes and course of World War II, the character of the war at home and abroad, and its reshaping of the U.S. role in world affairs	72.96	147
16	Geography	(8) Understands the characteristics of ecosystems on Earth's surface	72.90	137*
17	Civics	(1) Understands ideas about civic life, politics, and government	72.00	115
18	Civics	(4) Understands the concept of a constitution, the various purposes that constitutions serve, and the conditions that contribute to the establishment and maintenance of constitutional government	71.02	113
19	Civics	(3) Understands the sources, purposes, and functions of law and the importance of the rule of law for the protection of individual rights and the common good	70.92	114
20	Health	(6) Understands essential concepts about nutrition and diet	70.66	141
21	Civics	(8) Understands the central ideas of American constitutional government and how this form of government has shaped the character of American society	70.27	39
22	Health	(5) Knows essential concepts and practices concerning injury prevention and safety	69.86	140
23	Mathematics	(9) Understands the general nature and uses of mathematics	69.71	140
24	Health	(8) Knows essential concepts about the prevention and control of disease	69.52	139
25	Language Arts	(4) Gathers and uses information for research purposes	69.43	111
26	Language Arts	(2) Demonstrates competence in the stylistic and rhetorical aspects of writing	68.77	142

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	Subject Area	Standard	Percent	N
27	Life Work	(3) Manages money effectively	68.58	109
28	Health	(1) Knows the availability and effective use of health services, products, and information	68.23	137
29	Thinking and Reasoning	(5) Applies basic trouble-shooting and problem-solving techniques	67.57	108
30	U.S. History	(7) Understands the impact of the American Revolution on politics, economy, and society	67.34	182
31	Working with Others	(1) Contributes to the overall effort of a group	67.34	107
32	Working with Others	(3) Works well with diverse individuals and in diverse situations	67.20	108
33	Self-Regulation	(3) Considers risks	67.17	108
34	Technology	(1) Knows the characteristics and uses of computer hardware and operating systems	67.12	135
35	World History	(40) Understands the search for peace and stability throughout the world in the 1920s and 1930s	66.83	131
36	Life Work	(5) Makes general preparation for entering the work force	66.80	105
37	Health	(4) Knows how to maintain mental and emotional health	66.78	133
38	Civics	(15) Understands how the United States Constitution grants and distributes power and responsibilities to national and state government and how it seeks to prevent the abuse of power	66.31	167*
39	Civics	(9) Understands the importance of Americans sharing and supporting certain values, beliefs, and principles of American constitutional democracy	66.20	106
40	Mathematics	(4) Understands and applies basic and advanced properties of the concepts of measurement	66.18	132
41	Economics	(6) Understands the roles government plays in the United States economy	66.04	107*
42	Working with Others	(4) Displays effective interpersonal communication skills	65.96	105
43	Geography	(7) Knows the physical processes that shape patterns on Earth's surface	65.95	125*
44	Mathematics	(1) Uses a variety of strategies in the problem-solving process	65.48	131
45	U.S. History	(23) Understands the causes of the Great Depression and how it affected American society	65.07	131
46	Physical Education	(4) Understands how to monitor and maintain a health-enhancing level of physical fitness	64.87	129*
47	Civics	(24) Understands the meaning of citizenship in the United States, and knows the requirements for citizenship and naturalization	64.51	104
48	Mathematics	(3) Uses basic and advanced procedures while performing the processes of computation	64.40	129*
49	World History	(45) Understands major global trends since Word War II	64.30	129*
50	Life Work	(6) Makes effective use of basic life skills	63.72	99
51	Civics	(16) Understands the major responsibilities of the national government for domestic and foreign policy, and understands how government is financed through taxation	63.71	103

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	Subject Area	Standard	Percent	N
52	Life Work	(4) Pursues specific jobs	63.44	101
53	Science	(8) Understands the cycling of matter and flow of energy through the living environment	63.19	125
54	Civics	(2) Understands the essential characteristics of limited and unlimited governments	62.61	100
55	Civics	(11) Understands the role of diversity in American life and the importance of shared values, political beliefs, and civic beliefs in an increasingly diverse American society	62.01	98
56	Economics	(3) Understands the concept of prices and the interaction of supply and demand in a market economy	62.01	100
57	Science	(14) Understands the nature of scientific knowledge	61.67*	118
58	Health	(10) Understands the fundamental concepts of growth and development	61.66	122*
59	Self-Regulation	(1) Sets and manages goals	61.51	97
60	Thinking and Reasoning	(1) Understands and applies the basic principles of presenting an argument	61.33	97
61	U.S. History	(8) Understands the institutions and practices of government created during the revolution and how these elements were revised between 1787 and 1815 to create the foundation of the American political system based on the U.S. Constitution and the Bill of Rights	61.32	122
62	Health	(7) Knows how to maintain and promote personal health	61.02	122
63	World History	(43) Understands how post-World War II reconstruction occurred, new international power relations took shape, and colonial empires broke up	60.82	122*
64	Physical Education	(5) Understands the social and personal responsibility associated with participation in physical activity	60.15	121
65	U.S. History	(4) Understands how political, religious, and social institutions emerged in the North American colonies	59.75	120
66	World History	(44) Understands the search for community, stability, and peace in an interdependent world	59.62	119
67	U.S. History	(10) Understands how the industrial revolution, increasing immigration, the rapid expansion of slavery, and the westward movement changed American lives and led to regional tensions	59.53	119
68	Civics	(18) Understands the role and importance of law in the American constitutional system and issues regarding the judicial protection of individual rights	59.49	18
69	Science	(5) Understands the genetic basis for the transfer of biological characteristics from one generation to the next	59.28	118
70	Behavioral Studies	(1) Understands that group and cultural influences contribute to human development, identity, and behavior	58.84	115*
71	Thinking and Reasoning	(3) Effectively uses mental processes that are based on identifying similarities and differences (compares, contrasts, classifies)	58.64	92
72	World History	(39) Understands the causes and global consequences of World War I	57.42	114
73	World History	(42) Understands major global trends from 1900 to the end of World War II	57.42	114
74	U.S. History	(5) Understands how the values and institutions of European economic life took root in the colonies and how slavery reshaped European and African life in the Americas	56.68	113

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	Subject Area	Standard	Percent	N
75.	Civics	(5) Understands the major characteristics of systems of shared powers and of parliamentary systems	56.26	90
76.	Geography	(16) Understands the changes that occur in the meaning, use, distribution, and importance of resources	56.16	108*
77.	World History	(46) Understands long-term changes and recurring patterns in world history	56.10	112*
78.	U.S. History	(2) Understands cultural and ecological interactions among previously unconnected people resulting from early European exploration and colonization	55.81	112
79.	Life Work	(2) Uses various information sources, including those of a technical nature, to accomplish specific tasks	55.65	88
80.	U.S. History	(14) Understands the course and character of the Civil War and its effects on the American people	55.51	110*
81.	Self-Regulation	(4) Demonstrates perseverance	55.06	86
82.	Science	(16) Understands the scientific enterprise	55.06	106
83.	U.S. History	(22) Understands how the United States changed between the post-World War I years and the eve of the Great Depression	54.63	110
84.	Science	(11) Understands energy types, sources, and conversions, and their relationship to heat and temperature	54.58	107
85.	Working with Others	(2) Uses conflict-resolution techniques	54.44	88
86.	U.S. History	(29) Understands the struggle for racial and gender equality and for the extension of civil liberties	54.20	106
87.	Geography	(14) Understands how human actions modify the physical environment	54.19	103*
88.	U.S. History	(27) Understands how the Cold War and conflicts in Korea and Vietnam influenced domestic and international politics	54.16	91
89.	Science	(3) Understands essential ideas about the composition and structure of the universe and the Earth's place in it	54.01	109
90.	Science	(10) Understands basic concepts about the structure and properties of matter	53.86	107
91.	Self-regulation	(2) Performs self-appraisal	53.47	83
92.	Civics	(28) Understands how participation in civic and political life can help citizens attain individual and public goals	53.20	85
93.	Civics	(29) Understands the importance of political leadership, public service, and a knowledgeable citizenry in American constitutional democracy	53.20	85
94.	Science	(15) Understands the nature of scientific inquiry	53.02	100
95.	Economics	(5) Understands unemployment, income, and income distribution in a market economy	52.90	92*
96.	Health	(2) Knows environmental and external factors that affect individual and community health	52.67	104
97.	World History	(36) Understands patterns of global change in the era of Western military and economic domination from 1850 to 1914	52.53	104
98.	Self-Regulation	(6) Restrains impulsivity	52.37	82
99.	Behavioral Studies	(2) Understands various meanings of social group, general implications of group membership, and different ways that groups function	52.37	100*

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Subject Area	Standard	Percent	N
100. World History	(35) Understands patterns of nationalism, state-building, and social reform in Europe and the Americas from 1830 to 1914	52.04	104
101. U.S. History	(24) Understands how the New Deal addressed the Great Depression, transformed American federalism, and initiated the welfare state	51.87	105
102. Self-Regulation	(5) Maintains a healthy self-concept	51.53	81
103. U.S. History	(16) Understands how the rise of corporations, heavy industry, and mechanized farming transformed American society	51.51	103
104. U.S. History	(26) Understands the economic boom and social transformation of post-World War II United States	51.48	103
105. Science	(6) Knows the general structure and functions of cells in organisms	51.44	103
106. Science	(2) Understands basic Earth processes	51.27	103*
107. Civics	(20) Understands the roles of political parties, campaigns, elections, and associations and groups in American politics	51.17	82*
108. Civics	(17) Understands issues concerning the relationship between state and local governments and the national government and issues pertaining to representation at all three levels of government	50.40	80
109. U.S. History	(9) Understands the United States territorial expansion between 1801 and 1861, and how it affected relations with external powers and Native Americans	49.71	100*
110. World History	(33) Understands the causes and consequences of the agricultural and industrial revolutions from 1700 to 1850	49.66	99
111. U.S. History	(21) Understands the changing role of the United States in world affairs through World War I	49.63	100
112. World History	(26) Understands how the transoceanic interlinking of all major regions of the world between 1450 and 1600 led to global transformations	49.59	99
113. Economics	(7) Understands savings, investment, and interest rates	49.58	79
114. Language Arts	(5) Demonstrates competence in the general skills and strategies of the reading process	49.45	68*
115. U.S. History	(15) Understands how various reconstruction plans succeeded or failed	49.43	98
116. Science	(9) Understands the basic concepts of the evolution of species	49.17	97
117. U.S. History	(11) Understands the extension, restriction, and reorganization of political democracy after 1800	49.11	98*
118. Technology	(4) Understands the nature of technological design	48.84	95
119. Mathematics	(6) Understands and applies basic and advanced concepts of statistics and data analysis	48.37	97*
120. U.S. History	(12) Understands the sources and character of cultural, religious, and social reform movements in the antebellum period	48.33	96*
121. Thinking and Reasoning	(4) Understands and applies basic principles of hypothesis testing and scientific inquiry	48.29	53
122. Life Work	(1) Makes effective use of basic tools	48.22	75

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Subject Area	Standard	Percent	N
123. Historical Understanding	(2) Understands the historical perspective	47.76	91*
124. Behavioral Studies	(3) Understands that interactions among learning, inheritance, and physical development affect human behavior	47.57	91*
125. Geography	(15) Understands how physical systems affect human systems	47.50	90*
End of Inclusion in the Curriculum (No Overlap Cut-Point)			
126. Behavioral Studies	(4) Understands conflict, cooperation, and interdependence among individuals, groups, and institutions	47.13	82*
127. U.S. History	(3) Understands why the Americas attracted Europeans, why they brought enslaved Africans to their colonies, and how Europeans struggled for control of North America and the Caribbean	46.83	93
128. World History	(29) Understands the economic, political, and cultural interrelations among peoples of Africa, Europe, and the Americas between 1500 and 1750	46.17	92
129. U.S. History	(28) Understands domestic policies in the post-World War II period	45.63	109
130. Civics	(25) Understands issues regarding personal, political, and economic rights	45.35	72
131. Civics	(26) Understands issues regarding the proper scope and limits of rights and the relationships among personal, political, and economic rights	45.35	72
132. Civics	(21) Understands the formation and implementation of public policy	45.26	72
133. Language Arts	(6) Demonstrates competence in general skills and strategies for reading a variety of literary texts	44.73	72*
134. U.S. History	(31) Understands economic, social, and cultural developments in the contemporary United States	44.37	88
135. Economics	(2) Understands characteristics of different economic systems, economic institutions, and economic incentives	44.29	70*
136. Thinking and Reasoning	(6) Applies decision-making techniques	43.99	68
137. Economics	(4) Understands basic features of market structures and exchanges	43.96	70*
138. World History	(38) Understands reform, revolution, and social change in the world economy in the early century	43.68	94
139. Geography	(17) Understands how geography is used to interpret the past	43.54	82
140. Language Arts	(8) Demonstrates competence in speaking and listening as tools for learning	43.08	69*
141. U.S. History	(18) Understands the rise of the American labor movement and how political issues reflected social and economic changes	43.00	85
142. Civics	(6) Understands the advantages and disadvantages of federal, confederal, and unitary systems of government	42.28	67
143. Working with Others	(5) Demonstrates leadership skills	42.14	66
144. U.S. History	(17) Understands massive immigration after 1870 and how new social patterns, conflicts, and ideas of national unity developed amid growing cultural diversity	41.78	82
145. Economics	(9) Understands how Gross Domestic Product and inflation and deflation provide indications of the state of the economy	41.58	66*
146. U.S. History	(20) Understands how Progressives and others addressed problems of industrial capitalism, urbanization, and political corruption	41.55	82*

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Subject Area	Standard	Percent	N
147. World History	(27) Understands how European society experienced political, economic, and cultural transformations in an age of global intercommunication between 1450 and 1750	41.43	83*
148. Geography	(18) Understands global development and environmental issues	41.28	77*
149. Civics	(10) Understands the roles of voluntarism and organized groups in American social and political life	41.27	65
150. Thinking and Reasoning	(2) Understands and applies basic principles of logic and reasoning	41.05	65
End of Inclusion in the Curriculum (20% Overlap Cut-Point)			
151. Physical Education	(2) Uses movement concepts and principles in the development of motor skills	40.93	80*
152. Geography	(4) Understands the physical and human characteristics of place	39.88	76*
153. World History	(34) Understands how Eurasian societies were transformed in an era of global trade and the emergence of European power from 1750 to 1870	39.83	77
154. U.S. History	(30) Understands developments in foreign and domestic policies between the Nixon and Clinton presidencies	39.83	79
155. Technology	(3) Understands relationships among science, technology, society, and the individual	39.68	79
156. Civics	(12) Understands the relationships among liberalism, republicanism, and American constitutional democracy	39.58	63
157. Civics	(7) Understands alternative forms of representation and how they serve the purposes of constitutional government	39.36	62
158. Science	(4) Knows about the diversity and unity that characterize life	39.25	77
159. Mathematics	(2) Understands and applies basic and advanced properties of the concepts of numbers	38.76	77
160. World History	(37) Understands major global trends from 1750 to 1914	38.44	76
161. Civics	(19) Understands what is meant by "the public agenda," how it is set, and how it is influenced by public opinion and the media	38.25	60
162. Technology	(5) Understands the nature and operation of systems	38.17	75
163. Science	(12) Understands motion and the principles that explain it	38.11	75
164. Civics	(22) Understands how the world is organized politically into nation-states, how nation-states interact with one another, and issues surrounding U.S. foreign policy	38.05	60*
165. Economics	(1) Understands that scarcity of productive resources requires choices that generate opportunity costs	37.78	58*
166. U.S. History	(19) Understands federal Indian policy and United States foreign policy after the Civil War	37.43	73*
167. Physical Education	(3) Understands the benefits and costs associated with participation in physical activity	37.23	74*
168. Science	(13) Knows the kinds of forces that exist between objects and within atoms	36.36	70
169. Geography	(9) Understands the nature, distribution, and migration of human populations on Earth's surface	35.80	67*
170. Music	(7) Understands the relationship between music and history and culture	35.20	66

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Subject Area	Standard	Percent	N
171 Geography	(10) Understands the nature and complexity of Earth's cultural mosaics	34.75	65*
172 Mathematics	(5) Understands and applies basic and advanced properties of the concepts of geometry	34.05	67
173 World History	(4) Understands how agrarian societies spread and new states emerged in the third and second millennia BCE	33.63	68
174 Foreign Languages	(5) Recognizes that different languages use different patterns to communicate and applies this knowledge to the native language	32.46	65
175 World History	(2) Understands the processes that contributed to the emergence of agricultural societies around the world	32.39	64
176 Economics	(8) Understands basic concepts of United States fiscal policy and monetary policy	31.81	50
177 Civics	(27) Understands how certain character traits enhance citizens' ability to fulfill personal and civic responsibilities	31.80	50
178 Geography	(2) Knows the location of places, geographic features, and patterns of the environment	31.79	61*
179 Foreign Languages	(4) Demonstrates knowledge and understanding of traditional ideas and perspectives, institutions, professions, literary and artistic expressions, and other components of target culture	31.43	55*
180 World History	(31) Understands major global trends from 1450 to 1770	31.39	62
181 Foreign Language	(1) Uses the target language to engage in conversations, express feelings and emotions, and exchange opinions and information	30.96	62*
182 Geography	(6) Understands that culture and experience influence people's perceptions of places and regions	30.25	57*
183 World History	(11) Understands major global trends from 1000 BCE to 300 CE	29.74	59
184 World History	(9) Understands how major religious and large-scale empires arose in the Mediterranean Basin, China, and India from 500 BCE to 300 CE	29.74	59
185 Geography	(11) Understands the patterns and networks of economic interdependence on Earth's surface	29.54	55*
186 U.S. History	(1) Understands the characteristics of societies in the Americas, Western Europe, and Western Africa that increasingly interacted after 1450	29.34	58
187 Geography	(12) Understands the patterns of human settlement and their causes	29.29	55*
188 Civics	(14) Understands issues concerning the disparities between ideals and reality in American political and social life	29.05	46
189 World History	(8) Understands how Aegean civilization emerged and how interrelations developed among peoples of the eastern Mediterranean and Southwest Asia from 600 to 200 BCE	28.91	58
190 World History	(1) Understands the biological and cultural processes that shaped the earliest human communities	28.78	57*
191 Geography	(13) Understands the forces of cooperation and conflict that shape the divisions of Earth's surface	28.58	53*
192 World History	(32) Understands the causes and consequences of political revolutions in the late 18th and early 19th centuries	28.55	57
193 Geography	(5) Understands the concept of regions	28.48	53*
194 World History	(5) Understands the political, social, and cultural consequences of population movements and militarization in Eurasia in the second millennium BCE	28.25	57

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Subject Area	Standard	Percent	N
195. Mathematics	(8) Understands and applies basic and advanced properties of functions and algebra	28.04	55*
196. Mathematics	(7) Understands and applies basic and advanced concepts of probability	28.02	56
197. Visual Arts	(4) Understands the visual arts in relation to history and cultures	27.56	52
198. World History	(28) Understands how large territorial empires dominated much of Eurasia between the 16th and 18th centuries	27.42	93
199. Geography	(3) Understands the characteristics and uses of spatial organization of Earth's surface	27.23	51*
200. Economics	(10) Understands basic concepts about international economics	26.74	42
201. Historical Understanding	(1) Understands and knows how to analyze chronological relationships and patterns	26.19	63*
202. Civics	(13) Understands the character of American political and social conflict and factors that tend to prevent or lower its intensity	25.56	40
203. Civics	(23) Understands the impact of significant political and nonpolitical developments on the United States and other nations	24.82	39
204. Theatre	(6) Understands the context in which theatre, film, television, and electronic media are performed today as well as in the past	23.43	44
205. World History	(6) Understands major trends in Eurasia and Africa from 4000 to 1000 BCE	22.77	45
206. World History	(3) Understands the major characteristics of civilization and the development of civilizations in Mesopotamia, Egypt, and the Indus Valley	22.77	45
207. Theatre	(5) Understands how informal and formal theatre, film, television, and electronic media productions create and communicate meaning	22.73	43
208. Art Connections	(1) Understands connections among the various art forms and other disciplines	22.16	41
209. Visual Arts	(2) Knows how to use the structures (e.g., sensory qualities, organizational principles, expressive features) and functions of art	21.96	96
210. Physical Education	(1) Uses a variety of basic and advanced movement forms	21.62	43
211. Visual Arts	(5) Understands the characteristics and merits of one's own artwork and the artwork of others	20.71	39
212. World History	(15) Understands the political, social, and cultural redefinitions in Europe from 500 to 1000 CE	20.51	40
213. World History	(23) Understands patterns of crisis and recovery in Afro-Eurasia between 1300 and 1450	20.45	40*
214. World History	(17) Understands the rise of centers of civilization in Mesoamerica and Andean South America in the first millennium CE	19.96	40
215. World History	(10) Understands how early agrarian civilizations arose in Mesoamerica	19.96	40
216. World History	(30) Understands transformations in Asian societies in the era of European expansion	18.59	36
217. Music	(1) Sings, alone and with others, a varied repertoire of music	18.23	34
218. World History	(21) Understands the rise of the Mongol empire and its consequences for Eurasian peoples from 1200 to 1350	18.14	35
219. World History	(12) Understands the Imperial crises and their aftermath in various regions from 300 to 700 CE	17.38	35*

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Subject Area	Standard	Percent	N
220 World History	(20) Understands the redefinition of European society and culture from 1000 to 1300 CE	15.96	26
221 Visual Arts	(3) Knows a range of subject matter, symbols, and potential ideas in the visual arts	15.48	29
222 Dance	(5) Understands dance in various cultures and historical periods	15.43	29
223 Visual Arts	(1) Understands and applies media, techniques, and processes related to the visual arts	15.21	29
224 Dance	(3) Understands dance as a way to create and communicate meaning	14.84	28
225 Foreign Language	(2) Comprehends and interprets written and spoken language on diverse topics from diverse media	14.80	30*
226 World History	(18) Understands major global trends from 300 to 1000 CE	14.25	28*
227 World History	(24) Understands the expansion of states and civilizations in the Americas between 1000 and 1500	14.00	27
228 World History	(25) Understands major global trends from 1000 to 1500 CE	14.00	27
229 World History	(7) Understands technological and cultural innovation and change from 1000 to 600 BCE	13.93	28*
230 World History	(13) Understands the causes and consequences of the development of Islamic civilization between the 7th and 10th centuries	12.97	25
231 Dance	(6) Understands connections between dance and healthful living	11.98	22
232 Music	(6) Knows and applies appropriate criteria to music and music performances	11.03	21
233 Music	(2) Performs on instruments, alone and with others, a varied repertoire of music	9.54	18
234 World History	(19) Understands the maturation of an interregional system of communication, trade, and cultural exchange during a period of Chinese economic power and Islamic expansion	7.11	14
235 Foreign Language	(3) Presents information, concepts, and ideas to an audience of listeners or readers on a variety of topics	7.09	14*
236 World History	(22) Understands the growth of states, towns, and trade in Sub-Saharan Africa between the 11th and 15th centuries	6.02	11
237 Dance	(4) Applies critical and creative thinking skills in dance	5.86	11
238 World History	(14) Understands major developments in East Asia and Southeast Asia in the era of the Tang Dynasty from 600 to 900 CE	5.19	10
239 Music	(5) Reads and notates music	5.04	9
240 Music	(3) Improvises melodies, variations, and accompaniments	4.50	8
241 Theatre	(2) Uses acting skills	4.06	8
242 Theatre	(1) Demonstrates competence in writing scripts	3.54	7
243 World History	(16) Understands the development of agricultural societies and new states in tropical Africa and Oceania	3.42	6
244 Music	(4) Composes and arranges music within specified guidelines	3.19	9
245 Theatre	(3) Designs and produces informal and formal productions	2.55	5
246 Dance	(1) Identifies and demonstrates movement elements and skills in performing dance	2.54	5
247 Theatre	(4) Directs scenes and productions	2.29	4
248 Dance	(2) Understands choreographic principles, processes, and structures	2.09	4

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APPENDIX I
LESS THAN 50K INCOME

	Subject Area	Standard	Percent	N
1.	Health	(9) Understands aspects of substance use and abuse	92.53	396
2.	Health	(8) Knows essential concepts about the prevention and control of disease	82.28	358
3.	Health	(3) Understands the relationship of family health to individual health	81.44	354
4.	Language Arts	(3) Uses grammatical and mechanical conventions in written compositions	80.62	319
5.	Health	(4) Knows how to maintain mental and emotional health	79.00	342
6.	Technology	(2) Knows the characteristics and uses of computer software programs	74.95	307
7.	Health	(1) Knows the availability and effective use of health services, products, and information	74.24	322
8.	Geography	(1) Understands the characteristics and uses of maps, globes, and other geographic tools and technologies	74.08	258
9.	Technology	(1) Knows the characteristics and uses of computer hardware and operating systems	72.99	296
10.	Health	(10) Understands the fundamental concepts of growth and development	72.35	310*
11.	Life Work	(5) Makes general preparation for entering the work force	72.10	292
12.	Life Work	(3) Manages money effectively	72.04	292
13.	Health	(6) Understands essential concepts about nutrition and diet	71.74	306
14.	Health	(5) Knows essential concepts and practices concerning injury prevention and safety	71.43	307
15.	U.S. History	(23) Understands the causes of the Great Depression and how it affected American society	71.27	289
16.	U.S. History	(6) Understands the causes of the American Revolution, the ideas and interests involved in shaping the revolutionary movement, and reasons for the American victory	71.17	289
17.	Health	(7) Knows how to maintain and promote personal health	71.03	306
18.	Life Work	(7) Displays reliability and a basic work ethic	70.90	285
19.	Life Work	(8) Operates effectively within organizations	70.90	285
20.	World History	(41) Understands the causes and global consequences of World War II	70.81	300
21.	Mathematics	(4) Understands and applies basic and advanced properties of the concepts of measurement	70.75	298
22.	Life Work	(4) Pursues specific jobs	69.96	283
23.	Civics	(24) Understands the meaning of citizenship in the United States, and knows the requirements for citizenship and naturalization	69.81	278
24.	Life Work	(6) Makes effective use of basic life skills	69.61	279
25.	World History	(40) Understands the search for peace and stability throughout the world in the 1920s and 1930s	68.42	290
26.	U.S. History	(13) Understands the causes of the Civil War	68.33	278
27.	Mathematics	(9) Understands the general nature and uses of mathematics	67.15	285

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	Subject Area	Standard	Percent	N
28.	Science	(1) Understands basic features of the Earth	67.13	275
29.	Mathematics	(3) Uses basic and advanced procedures while performing the processes of computation	67.12	287*
30.	Civics	(3) Understands the sources, purposes, and functions of law and the importance of the rule of law for the protection of individual rights and the common good	66.41	267
31.	Self-Regulation	(3) Considers risks	66.21	265
32.	Working with Others	(3) Works well with diverse individuals and in diverse situations	65.79	257
33.	Working with Others	(4) Displays effective interpersonal communication skills	65.30	161
34.	U.S. History	(25) Understands the causes and course of World War II, the character of the war at home and abroad, and its reshaping of the U.S. role in world affairs	65.05	262
35.	World History	(45) Understands major global trends since Word War II	64.38	271*
36.	Science	(7) Understands how species depend on one another and on the environment for survival	63.53	258
37.	Self-Regulation	(5) Maintains a healthy self-concept	62.90	254
38.	Civics	(4) Understands the concept of a constitution, the various purposes that constitutions serve, and the conditions that contribute to the establishment and maintenance of constitutional government	62.86	252
39.	Health	(2) Knows environmental and external factors that affect individual and community health	62.31	270
40.	Civics	(8) Understands the central ideas of American constitutional government and how this form of government has shaped the character of American society	62.27	124
41.	Civics	(1) Understands ideas about civic life, politics, and government	61.94	251
42.	U.S. History	(7) Understands the impact of the American Revolution on politics, economy, and society	61.81	372
43.	Language Arts	(7) Demonstrates competence in the general skills and strategies for reading a variety of informational texts	61.31	245*
44.	U.S. History	(2) Understands cultural and ecological interactions among previously unconnected people resulting from early European exploration and colonization	61.06	244
45.	Self-Regulation	(6) Restrains impulsivity	60.47	243
46.	Civics	(15) Understands how the United States Constitution grants and distributes power and responsibilities to national and state government and how it seeks to prevent the abuse of power	60.38	243*
47.	U.S. History	(22) Understands how the United States changed between the post-World War I years and the eve of the Great Depression	60.28	245
48.	World History	(43) Understands how post-World War II reconstruction occurred, new international power relations took shape, and colonial empires broke up	60.13	253*
49.	Thinking and Reasoning	(5) Applies basic trouble-shooting and problem-solving techniques	59.85	236
50.	Civics	(9) Understands the importance of Americans sharing and supporting certain values, beliefs, and principles of American constitutional democracy	59.72	241

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Subject Area	Standard	Percent	N
51. Self-Regulation	(2) Performs self-appraisal	58.41	235
52. World History	(44) Understands the search for community, stability, and peace in an interdependent world	58.19	240
53. Language Arts	(1) Demonstrates competence in the general skills and strategies of the writing process	58.01	228*
54. Physical Education	(4) Understands how to monitor and maintain a health-enhancing level of physical fitness	57.56	233*
55. U.S. History	(24) Understands how the New Deal addressed the Great Depression, transformed American federalism, and initiated the welfare state	57.52	233
56. Geography	(8) Understands the characteristics of ecosystems on Earth's surface	57.32	197*
57. Working with Others	(5) Demonstrates leadership skills	57.31	230
58. Language Arts	(4) Gathers and uses information for research purposes	57.15	225
59. Mathematics	(1) Uses a variety of strategies in the problem-solving process	57.14	240
60. Science	(16) Understands the scientific enterprise	56.64	219
61. World History	(46) Understands long-term changes and recurring patterns in world history	56.33	239*
62. Language Arts	(2) Demonstrates competence in the stylistic and rhetorical aspects of writing	56.02	223
63. World History	(39) Understands the causes and global consequences of World War I	56.02	234
64. World History	(42) Understands major global trends from 1900 to the end of World War II	56.02	234
65. Self-Regulation	(1) Sets and manages goals	55.91	223
66. Physical Education	(5) Understands the social and personal responsibility associated with participation in physical activity	55.80	226
67. U.S. History	(14) Understands the course and character of the Civil War and its effects on the American people	55.72	223*
68. U.S. History	(16) Understands how the rise of corporations, heavy industry, and mechanized farming transformed American society	55.68	218
69. Thinking and Reasoning	(1) Understands and applies the basic principles of presenting an argument	55.17	218
70. U.S. History	(29) Understands the struggle for racial and gender equality and for the extension of civil liberties	54.74	217
71. U.S. History	(4) Understands how political, religious, and social institutions emerged in the North American colonies	54.66	219
72. Language Arts	(5) Demonstrates competence in the general skills and strategies of the reading process	54.62	154*
73. U.S. History	(27) Understands how the Cold War and conflicts in Korea and Vietnam influenced domestic and international politics	54.61	183
74. Working with Others	(1) Contributes to the overall effort of a group	54.58	213
75. Thinking and Reasoning	(3) Effectively uses mental processes that are based on identifying similarities and differences (compares, contrasts, classifies)	54.58	214
76. Science	(5) Understands the genetic basis for the transfer of biological characteristics from one generation to the next	54.34	220

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BEST COPY AVAILABLE

Subject Area	Standard	Percent	N
123 World History	(29) Understands the economic, political, and cultural interrelations among peoples of Africa, Europe, and the Americas between 1500 and 1750	46.13	190
124 Geography	(14) Understands how human actions modify the physical environment	46.07	158*
125 U.S. History	(28) Understands domestic policies in the post-World War II period	45.82	219
126 U.S. History	(20) Understands how Progressives and others addressed problems of industrial capitalism, urbanization, and political corruption	45.57	183*
127 World History	(36) Understands patterns of global change in the era of Western military and economic domination from 1850 to 1914	45.56	190
128 World History	(33) Understands the causes and consequences of the agricultural and industrial revolutions from 1700 to 1850	45.28	185
129 U.S. History	(11) Understands the extension, restriction, and reorganization of political democracy after 1800	44.85	178*
130 Language Arts	(8) Demonstrates competence in speaking and listening as tools for learning	44.62	177*
131 Science	(2) Understands basic Earth processes	44.33	180*
End of Inclusion in the Curriculum (No Overlap Cut-Point)			
132 Physical Education	(3) Understands the benefits and costs associated with participation in physical activity	44.23	179*
133 Civics	(26) Understands issues regarding the proper scope and limits of rights and the relationships among personal, political, and economic rights	44.19	175
134 Civics	(25) Understands issues regarding personal, political, and economic rights	44.19	175
135 Geography	(15) Understands how physical systems affect human systems	44.11	151*
136 Mathematics	(2) Understands and applies basic and advanced properties of the concepts of numbers	44.01	185
137 World History	(38) Understands reform, revolution, and social change in the world economy in the early century	43.60	165
138 Economics	(4) Understands basic features of market structures and exchanges	42.99	168*
139 Language Arts	(6) Demonstrates competence in general skills and strategies for reading a variety of literary texts	42.91	174*
140 Thinking and Reasoning	(2) Understands and applies basic principles of logic and reasoning	42.80	164
141 U.S. History	(17) Understands massive immigration after 1870 and how new social patterns, conflicts, and ideas of national unity developed amid growing cultural diversity	41.81	165
142 Civics	(21) Understands the formation and implementation of public policy	41.79	164
143 Science	(9) Understands the basic concepts of the evolution of species	40.09	156
144 Thinking and Reasoning	(6) Applies decision-making techniques	40.00	156
145 Historical Understanding	(2) Understands the historical perspective	39.99	135*
146 Civics	(27) Understands how certain character traits enhance citizens' ability to fulfill personal and civic responsibilities	39.75	152

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BEST COPY AVAILABLE

Subject Area	Standard	Percent	N
147. World History	(27) Understands how European society experienced political, economic, and cultural transformations in an age of global intercommunication between 1450 and 1750	39.05	162*
148. Science	(10) Understands basic concepts about the structure and properties of matter	38.79	152
149. U.S. History	(19) Understands federal Indian policy and United States foreign policy after the Civil War	38.62	152*
150. Geography	(4) Understands the physical and human characteristics of place	38.22	132*
151. Civics	(7) Understands alternative forms of representation and how they serve the purposes of constitutional government	38.10	148
152. Physical Education	(2) Uses movement concepts and principles in the development of motor skills	38.07	151*
153. Civics	(22) Understands how the world is organized politically into nation-states, how nation-states interact with one another, and issues surrounding U.S. foreign policy	37.98	148*
154. World History	(32) Understands the causes and consequences of political revolutions in the late 18th and early 19th centuries	37.63	155
155. Economics	(2) Understands characteristics of different economic systems, economic institutions, and economic incentives	37.61	150*
156. Foreign Language	(5) Recognizes that different languages use different patterns to communicate and applies this knowledge to the native language	37.56	156*
157. Behavioral Studies	(4) Understands conflict, cooperation, and interdependence among individuals, groups, and institutions	37.25	168*
End of Inclusion in the Curriculum (20% Overlap Cut-Point)			
158. Science	(12) Understands motion and the principles that explain it	37.06	146
159. World History	(37) Understands major global trends from 1750 to 1914	36.75	153
160. Civics	(6) Understands the advantages and disadvantages of federal, confederal, and unitary systems of government	35.84	143
161. Civics	(19) Understands what is meant by "the public agenda," how it is set, and how it is influenced by public opinion and the media	35.77	141
162. World History	(34) Understands how Eurasian societies were transformed in an era of global trade and the emergence of European power from 1750 to 1870	35.71	144
163. Economics	(9) Understands how Gross Domestic Product and inflation and deflation provide indications of the state of the economy	35.14	138*
164. Foreign Languages	(1) Uses the target language to engage in conversations, express feelings and emotions, and exchange opinions and information	34.97	143*
165. World History	(31) Understands major global trends from 1450 to 1770	34.67	141
166. Economics	(1) Understands that scarcity of productive resources requires choices that generate opportunity costs	34.66	135*
167.Mathematics	(5) Understands and applies basic and advanced properties of the concepts of geometry	34.28	140
168. Science	(13) Knows the kinds of forces that exist between objects and within atoms	34.28	133
169. Civics	(12) Understands the relationships among liberalism, republicanism, and American constitutional democracy	34.22	139

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Subject Area	Standard	Percent	N
195 World History	(5) Understands the political, social, and cultural consequences of population movements and militarization in Eurasia in the second millennium BCE	26.08	108
196 World History	(9) Understands how major religious and large-scale empires arose in the Mediterranean Basin, China, and India from 500 BCE to 300 CE	25.94	108
197 World History	(11) Understands major global trends from 1000 BCE to 300 CE	25.94	108
198 Geography	(12) Understands the patterns of human settlement and their causes	25.84	87*
199 Foreign Language	(4) Demonstrates knowledge and understanding of traditional ideas and perspectives, institutions, professions, literary and artistic expressions, and other components of target culture	25.07	114*
200 Visual Arts	(5) Understands the characteristics and merits of one's own artwork and the artwork of others	25.04	83
201 Geography	(11) Understands the patterns and networks of economic interdependence on Earth's surface	24.61	84*
202 Art Connections	(1) Understands connections among the various art forms and other disciplines	24.52	80
203 Geography	(13) Understands the forces of cooperation and conflict that shape the divisions of Earth's surface	24.52	83*
204 Physical Education	(1) Uses a variety of basic and advanced movement forms	23.99	94
205 Geography	(3) Understands the characteristics and uses of spatial organization of Earth's surface	23.65	87*
206 World History	(23) Understands patterns of crisis and recovery in Afro-Eurasia between 1300 and 1450	23.54	95*
207 Foreign Language	(2) Comprehends and interprets written and spoken language on diverse topics from diverse media	22.67	92*
208 Geography	(5) Understands the concept of regions	22.24	75*
209 Music	(1) Sings, alone and with others, a varied repertoire of music	21.69	72
210 World History	(24) Understands the expansion of states and civilizations in the Americas between 1000 and 1500	21.36	87
211 World History	(25) Understands major global trends from 1000 to 1500 CE	21.36	87
212 World History	(15) Understands the political, social, and cultural redefinitions in Europe from 500 to 1000 CE	21.19	83
213 World History	(3) Understands the major characteristics of civilization and the development of civilizations in Mesopotamia, Egypt, and the Indus Valley	20.84	86
214 World History	(6) Understands major trends in Eurasia and Africa from 4000 to 1000 BCE	20.84	86
215 Visual Arts	(2) Knows how to use the structures (e.g., sensory qualities, organizational principles, expressive features) and functions of art	20.76	140
216 Theatre	(5) Understands how informal and formal theatre, film, television, and electronic media productions create and communicate meaning	20.74	69
217 Visual Arts	(3) Knows a range of subject matter, symbols, and potential ideas in the visual arts	20.19	66
218 World History	(17) Understands the rise of centers of civilization in Mesoamerica and Andean South America in the first millennium CE	19.56	80
219 World History	(10) Understands how early agrarian civilizations arose in Mesoamerica	19.56	80

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Subject Area	Standard	Percent	N
170. Civics	(23) Understands the impact of significant political and nonpolitical developments on the United States and other nations	34.07	133
171. U.S. History	(1) Understands the characteristics of societies in the Americas, Western Europe, and Western Africa that increasingly interacted after 1450	33.54	131
172. Economics	(8) Understands basic concepts of United States fiscal policy and monetary policy	33.33	129
173. Civics	(14) Understands issues concerning the disparities between ideals and reality in American political and social life	33.09	132
174. Geography	(2) Knows the location of places, geographic features, and patterns of the environment	32.98	113*
175. Mathematics	(7) Understands and applies basic and advanced concepts of probability	31.93	131
176. Mathematics	(8) Understands and applies basic and advanced properties of functions and algebra	31.70	130*
177. Geography	(18) Understands global development and environmental issues	31.44	107*
178. Civics	(10) Understands the roles of voluntarism and organized groups in American social and political life	31.04	122
179. World History	(8) Understands how Aegean civilization emerged and how interrelations developed among peoples of the eastern Mediterranean and Southwest Asia from 600 to 200 BCE	29.95	119
180. Geography	(10) Understands the nature and complexity of Earth's cultural mosaics	29.92	101*
181. Thinking and Reasoning	(4) Understands and applies basic principles of hypothesis testing and scientific inquiry	29.63	176
182. Music	(7) Understands the relationship between music and history and culture	29.30	99
183. Geography	(9) Understands the nature, distribution, and migration of human populations on Earth's surface	28.85	98*
184. Science	(4) Knows about the diversity and unity that characterize life	28.61	113
185. Civics	(13) Understands the character of American political and social conflict and factors that tend to prevent or lower its intensity	28.56	112
186. World History	(1) Understands the biological and cultural processes that shaped the earliest human communities	28.40	120*
187. Economics	(10) Understands basic concepts about international economics	28.02	109
188. World History	(28) Understands how large territorial empires dominated much of Eurasia between the 16th and 18th centuries	27.97	158
189. Geography	(17) Understands how geography is used to interpret the past	27.89	94
190. World History	(2) Understands the processes that contributed to the emergence of agricultural societies around the world	27.70	118
191. Historical Understanding	(1) Understands and knows how to analyze chronological relationships and patterns	27.26	9*
192. Geography	(6) Understands that culture and experience influence people's perceptions of places and regions	27.17	93*
193. Visual Arts	(4) Understands the visual arts in relation to history and cultures	26.84	90
194. World History	(4) Understands how agrarian societies spread and new states emerged in the third and second millennia BCE	26.27	112

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Subject Area	Standard	Percent	N
220 Dance	(6) Understands connections between dance and healthful living	19.47	64
221 World History	(12) Understands the Imperial crises and their aftermath in various regions from 300 to 700 CE	19.42	79*
222 World History	(21) Understands the rise of the Mongol empire and its consequences for Eurasian peoples from 1200 to 1350	18.85	73
223 World History	(18) Understands major global trends from 300 to 1000 CE	18.50	75*
224 World History	(30) Understands transformations in Asian societies in the era of European expansion	17.52	71
225 Foreign Language	(3) Presents information, concepts, and ideas to an audience of listeners or readers on a variety of topics	17.43	71*
226 Dance	(5) Understands dance in various cultures and historical periods	16.98	56
227 Dance	(3) Understands dance as a way to create and communicate meaning	16.00	52
228 World History	(7) Understands technological and cultural innovation and change from 1000 to 600 BCE	15.32	62*
229 World History	(20) Understands the redefinition of European society and culture from 1000 to 1300 CE	15.14	51
230 Visual Arts	(1) Understands and applies media, techniques, and processes related to the visual arts	14.72	49
231 Theatre	(6) Understands the context in which theatre, film, television, and electronic media are performed today as well as in the past	14.64	50
232 Music	(2) Performs on instruments, alone and with others, a varied repertoire of music	13.91	46
233 Theatre	(2) Uses acting skills	13.24	44
234 World History	(13) Understands the causes and consequences of the development of Islamic civilization between the 7th and 10th centuries	12.85	51
235 World History	(16) Understands the development of agricultural societies and new states in tropical Africa and Oceania	11.16	44
236 World History	(14) Understands major developments in East Asia and Southeast Asia in the era of the Tang Dynasty from 600 to 900 CE	10.12	40
237 World History	(19) Understands the maturation of an interregional system of communication, trade, and cultural exchange during a period of Chinese economic power and Islamic expansion	10.07	39
238 Theatre	(1) Demonstrates competence in writing scripts	9.61	32
239 Dance	(4) Applies critical and creative thinking skills in dance	8.23	27
240 Music	(5) Reads and notates music	8.00	26
241 Music	(3) Improvises melodies, variations, and accompaniments	6.98	23
242 Dance	(2) Understands choreographic principles, processes, and structures	6.95	23
243 Music	(6) Knows and applies appropriate criteria to music and music performances	6.50	21
244 Dance	(1) Identifies and demonstrates movement elements and skills in performing dance	6.30	21
245 World History	(22) Understands the growth of states, towns, and trade in Sub-Saharan Africa between the 11th and 15th centuries	5.98	24
246 Music	(4) Composes and arranges music within specified guidelines	5.72	24

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Subject Area	Standard	Percent	N
247 Theatre	(3) Designs and produces informal and formal productions	5.04	17
248 Theatre	(4) Directs scenes and productions	4.45	14

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APPENDIX J
STANDARDS WITH DEFINITELY NOT AND DEFINITELY RESPONSES

	Subject	Standard	% Definitely Not	N	% Definitely	N
1	Music	(4) Composes and arranges music within specified guidelines	31.49	177	6.00	34
2	Theatre	(4) Directs scenes and productions	31.15	177	5.60	32
3	Theatre	(3) Designs and produces informal and formal productions	29.03	166	5.20	30
4	Music	(3) Improvises melodies, variations, and accompaniments	23.38	132	7.00	40
5	Dance	(1) Identifies and demonstrates movement elements and skills in performing dance	21.26	121	6.40	36
6	Music	(5) Reads and notates music	20.20	116	8.10	47
7	Theatre	(1) Demonstrates competence in writing scripts	19.32	111	8.10	46
8	Dance	(2) Understands choreographic principles, processes, and structures	18.53	106	6.70	39
9	Music	(6) Knows and applies appropriate criteria to music and music performances	18.48	106	9.50	54
10	Dance	(4) Applies critical and creative thinking skills in dance	15.87	90	8.70	49
11	Music	(1) Sings, alone and with others, a varied repertoire of music	15.07	86	21.50	123
12	Theatre	(2) Uses acting skills	14.47	83	12.50	72
13	World History	(19) Understands the maturation of an interregional system of communication, trade, and cultural exchange during a period of Chinese economic power and Islamic expansion	13.83	87	8.60	54
14	Music	(2) Performs on instruments, alone and with others, a varied repertoire of music	13.69	78	13.30	77
15	World History	(16) Understands the developmen... of agricultural societies and new states in tropical Africa and Oceania	13.04	82	8.50	53
16	World History	(22) Understands the growth of states, towns, and trade in Sub-Saharan Africa between the 11th and 15th centuries	12.10	77	6.40	41
17	World History	(20) Understands the redefinition of European society and culture from 1000 to 1300 CE	11.52	62	16.10	87
18	Foreign Language	(3) Presents information, concepts, and ideas to an audience of listeners or readers on a variety of topics	11.36	75*	14.25	94*
19	World History	(12) Understands the Imperial crises and their aftermath in various regions from 300 to 700 CE	10.98	69*	18.90	123*
20	World History	(14) Understands major developments in East Asia and Southeast Asia in the era of the Tang Dynasty from 600 to 900 CE	10.75	68	8.90	56

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Subject	Standard	% Definitely Not	N	% Definitely	N
41 World History	(15) Understands the political, social, and cultural redefinitions in Europe from 500 to 1000 CE	6.23	39	21.00	133
42 World History	(8) Understands how Aegean civilization emerged and how interrelations developed among peoples of the eastern Mediterranean and Southwest Asia from 600 to 200 BCE	5.99	38	29.48	189
43 Theatre	(6) Understands the context in which theatre, film, television, and electronic media are performed today as well as in the past	5.97	35	19.60	114
44 World History	(11) Understands major global trends from 1000 BCE to 300 CE	5.59	37	27.10	179
45 World History	(9) Understands how major religious and large-scale empires arose in the Mediterranean Basin, China, and India from 500 BCE to 300 CE	5.59	37	27.10	179
46 Visual Arts	(2) Knows how to use the structures (e.g., sensory qualities, organizational principles, expressive features) and functions of art	5.52	32	22.60	264
47 Visual Arts	(3) Knows a range of subject matter, symbols, and potential ideas in the visual arts	5.27	30	20.00	114
48 World History	(28) Understands how large territorial empires dominated much of Eurasia between the 16th and 18th centuries	5.21	33	28.60	264
49 World History	(1) Understands the biological and cultural processes that shaped the earliest human communities	5.17	35*	29.00	194*
50 Visual Arts	(5) Understands the characteristics and merits of one's own artwork and the artwork of others	4.94	29	24.80	143
51 Foreign Language	(1) Uses the target language to engage in conversations, express feelings and emotions, and exchange opinions and information	4.88	32*	35.20	232*
52 Visual Arts	(4) Understands the visual arts in relation to history and cultures	4.61	27	27.60	159
53 World History	(2) Understands the processes that contributed to the emergence of agricultural societies around the world	4.56	31	28.40	190
54 Civics	(27) Understands how certain character traits enhance citizens' ability to fulfill personal and civic responsibilities	4.55	26	37.90	215
55 Geography	(14) Understands how human actions modify the physical environment	4.38	25*	49.23	290*
56 World History	(5) Understands the political, social, and cultural consequences of population movements and militarization in Eurasia in the second millennium BCE	4.31	28	26.70	176
57 Art Connections	(1) Understands connections among the various art forms and other disciplines	4.17	23	25.30	142
58 World History	(30) Understands transformations in Asian societies in the era of European expansion	3.85	25	19.30	125

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Subject	Standard	% Definitely Not	N	% Definitely	N
21 World History	(13) Understands the causes and consequences of the development of Islamic civilization between the 7th and 10th centuries	10.45	66	12.70	80
22 World History	(7) Understands technological and cultural innovation and change from 1000 to 600 BCE	10.04	65*	14.90	96*
23 Dance	(3) Understands dance as a way to create and communicate meaning	9.79	56	17.80	101
24 World History	(21) Understands the rise of the Mongol empire and its consequences for Eurasian peoples from 1200 to 1350	9.28	58	18.10	342
25 Visual Arts	(1) Understands and applies media, techniques, and processes related to the visual arts	9.18	53	18.10	104
26 World History	(18) Understands major global trends from 300 to 1000 CE	9.05	58*	17.60	114*
27 Theatre	(5) Understands how informal and formal theatre, film, television, and electronic media productions create and communicate meaning	8.82	51	23.10	133
28 Science	(9) Understands the basic concepts of the evolution of species	8.49	54	41.60	264
29 Foreign Language	(2) Comprehends and interprets written and spoken language on diverse topics from diverse media	8.39	55*	20.20	132*
30 Physical Education	(1) Uses a variety of basic and advanced movement forms	8.04	52	23.00	148
31 Dance	(6) Understands connections between dance and healthful living	7.80	44	18.90	107
32 World History	(23) Understands patterns of crisis and recovery in Afro-Eurasia between 1300 and 1450	7.62	48*	23.00	148*
33 World History	(3) Understands the major characteristics of civilization and the development of civilizations in Mesopotamia, Egypt, and the Indus Valley	7.36	48	21.20	139
34 World History	(6) Understands major trends in Eurasia and Africa from 4000 to 1000 BCE	7.36	48	21.20	139
35 World History	(24) Understands the expansion of states and civilizations in the Americas between 1000 and 1500	6.91	45	19.60	126
36 World History	(25) Understands major global trends from 1000 to 1500 CE	6.91	45	19.60	126
37 Dance	(5) Understands dance in various cultures and historical periods	6.60	38	17.70	101
38 World History	(17) Understands the rise of centers of civilization in Mesoamerica and Andean South America in the first millennium CE	6.42	42	19.30	265
39 World History	(10) Understands how early agrarian civilizations arose in Mesoamerica	6.42	42	19.30	125
40 Geography	(13) Understands the forces of cooperation and conflict that shape the divisions of Earth's surface	6.40	37*	26.50	153*

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Subject Area	Standard	Percent	N
77. Life Work	(1) Makes effective use of basic tools	54.06	218
78. U.S. History	(21) Understands the changing role of the United States in world affairs through World War I	53.80	218
79. Behavioral Studies	(1) Understands that group and cultural influences contribute to human development, identity, and behavior	53.78	213*
80. U.S. History	(18) Understands the rise of the American labor movement and how political issues reflected social and economic changes	53.78	216
81. U.S. History	(3) Understands why the Americas attracted Europeans, why they brought enslaved Africans to their colonies, and how Europeans struggled for control of North America and the Caribbean	53.67	216
82. Civics	(18) Understands the role and importance of law in the American constitutional system and issues regarding the judicial protection of individual rights	53.48	213*
83. Self-Regulation	(4) Demonstrates perseverance	53.12	213
84. U.S. History	(10) Understands how the industrial revolution, increasing immigration, the rapid expansion of slavery, and the westward movement changed American lives and led to regional tensions	53.03	214
85. Working with Others	(2) Uses conflict-resolution techniques	52.94	209
86. science	(8) Understands the cycling of matter and flow of energy through the living environment	52.57	210
87. Economics	(6) Understands the roles government plays in the United States economy	52.56	210*
88. Geography	(7) Knows the physical processes that shape patterns on Earth's surface	52.09	179*
89. Life Work	(2) Uses various information sources, including those of a technical nature, to accomplish specific tasks	52.05	209
90. Technology	(4) Understands the nature of technological design	51.89	204
91. Civics	(11) Understands the role of diversity in American life and the importance of shared values, political beliefs, and civic beliefs in an increasingly diverse American society	51.56	204
92. Civics	(16) Understands the major responsibilities of the national government for domestic and foreign policy, and understands how government is financed through taxation	51.27	204
93. U.S. History	(8) Understands the institutions and practices of government created during the revolution and how these elements were revised between 1787 and 1815 to create the foundation of the American political system based on the U.S. Constitution and the Bill of Rights	50.96	203
94. U.S. History	(30) Understands developments in foreign and domestic policies between the Nixon and Clinton presidencies	50.82	203
95. Civics	(20) Understands the roles of political parties, campaigns, elections, and associations and groups in American politics	50.22	201*
96. Science	(3) Understands essential ideas about the composition and structure of the universe and the Earth's place in it	49.99	201
97. Civics	(2) Understands the essential characteristics of limited and unlimited governments	49.82	200
98. Science	(14) Understands the nature of scientific knowledge	49.74	192
99. Economics	(3) Understands the concept of prices and the interaction of supply and demand in a market economy	49.67	200

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Subject Area	Standard	Percent	N
100. Technology	(3) Understands relationships among science, technology, society, and the individual	49.54	200
101. World History	(35) Understands patterns of nationalism, state-building, and social reform in Europe and the Americas from 1830 to 1914	49.35	200
102. Behavioral Studies	(3) Understands that interactions among learning, inheritance, and physical development affect human behavior	49.30	195*
103. U.S. History	(12) Understands the sources and character of cultural, religious, and social reform movements in the antebellum period	49.29	195*
104. U.S. History	(26) Understands the economic boom and social transformation of post-World War II United States	49.27	196
105. Behavioral Studies	(2) Understands various meanings of social group, general implications of group membership, and different ways that groups function	48.93	193*
106. Science	(11) Understands energy types, sources, and conversions, and their relationship to heat and temperature	48.82	198
107. U.S. History	(31) Understands economic, social, and cultural developments in the contemporary United States	48.79	197
108. Civics	(17) Understands issues concerning the relationship between state and local governments and the national government and issues pertaining to representation at all three levels of government	48.67	194
109. Technology	(5) Understands the nature and operation of systems	48.43	192
110. Civics	(5) Understands the major characteristics of systems of shared powers and of parliamentary systems	48.24	192
111. Geography	(16) Understands the changes that occur in the meaning, use, distribution, and importance of resources	48.09	166*
112. U.S. History	(5) Understands how the values and institutions of European economic life took root in the colonies and how slavery reshaped European and African life in the Americas	48.01	193
113. Mathematics	(6) Understands and applies basic and advanced concepts of statistics and data analysis	47.79	196*
114. Economics	(7) Understands savings, investment, and interest rates	47.77	188
115. World History	(26) Understands how the transoceanic interlinking of all major regions of the world between 1450 and 1600 led to global transformations	47.62	196
116. Civics	(28) Understands how participation in civic and political life can help citizens attain individual and public goals	47.14	184
117. Civics	(29) Understands the importance of political leadership, public service, and a knowledgeable citizenry in American constitutional democracy	47.14	184
118. U.S. History	(9) Understands the United States territorial expansion between 1801 and 1861, and how it affected relations with external powers and Native Americans	46.97	185*
119. Economics	(5) Understands unemployment, income, and income distribution in a market economy	46.94	135*
120. Science	(6) Knows the general structure and functions of cells in organisms	46.82	187
121. U.S. History	(15) Understands how various reconstruction plans succeeded or failed	46.38	185
122. Science	(15) Understands the nature of scientific inquiry	46.13	175

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Subject	Standard	% Definitely Not	N	% Definitely	N
59 World History	(27) Understands how European society experienced political, economic, and cultural transformations in an age of global intercommunication between 1450 and 1750	3.80	26*	41.00	27
60 Thinking and Reasoning	(4) Understands and applies basic principles of hypothesis testing and scientific inquiry	3.78	21	36.40	238
61 Civics	(6) Understands the advantages and disadvantages of federal, confederal, and unitary systems of government	3.73	22	37.90	222
62 Music	(7) Understands the relationship between music and history and culture	3.55	20	33.20	194
63 Geography	(2) Knows the location of places, geographic features, and patterns of the environment	3.53	21*	32.73	193*
64 World History	(31) Understands major global trends from 1450 to 1770	3.44	22	34.90	225
65 World History	(4) Understands how agrarian societies spread and new states emerged in the third and second millennia BCE	3.39	23	30.50	206
66 Physical Education	(3) Understands the benefits and costs associated with participation in physical activity	3.35	22*	41.95	275*
67 Civics	(13) Understands the character of American political and social conflict and factors that tend to prevent or lower its intensity	3.25	19	27.60	159
68 Civics	(20) Understands the roles of political parties, campaigns, elections, and associations and groups in American politics	3.22	19*	51.10	300*
69 Foreign Language	(4) Demonstrates knowledge and understanding of traditional ideas and perspectives, institutions, professions, literary and artistic expressions, and other components of target culture	3.20	22*	28.17	189*
70 Geography	(12) Understands the patterns of human settlement and their causes	3.14	18*	27.80	160*
71 Geography	(3) Understands the characteristics and uses of spatial organization of Earth's surface	3.14	18*	26.20	154*
72 Economics	(8) Understands basic concepts of United States fiscal policy and monetary policy	3.11	18	32.90	187
73 U.S. History	(8) Understands the institutions and practices of government created during the revolution and how these elements were revised between 1787 and 1815 to create the foundation of the American political system based on the U.S. Constitution and the Bill of Rights	3.08	20	53.70	348
74 Geography	(18) Understands global development and environmental issues	3.05	18*	34.80	203*
75 Civics	(22) Understands how the world is organized politically into nation-states, how nation-states interact with one another, and issues surrounding U.S. foreign policy	3.04	17*	38.30	220*

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Subject	Standard	% Definitely Not	N	% Definitely	N
76 Behavioral Studies	(4) Understands conflict, cooperation, and interdependence among individuals, groups, and institutions	3.04	23*	41.87	268*
77 Civics	(14) Understands issues concerning the disparities between ideals and reality in American political and social life	3.03	18	32.10	188
78 U.S. History	(1) Understands the characteristics of societies in the Americas, Western Europe, and Western Africa that increasingly interacted after 1450	2.98	19	31.20	200
79 Geography	(11) Understands the patterns and networks of economic interdependence on Earth's surface	2.96	17*	27.28	156*
80 Physical Education	(2) Uses movement concepts and principles in the development of motor skills	2.92	19*	38.83	250*
81 Foreign Language	(5) Recognizes that different languages use different patterns to communicate and applies this knowledge to the native language	2.91	19	35.70	238
82 Science	(4) Knows about the diversity and unity that characterize life	2.90	19	32.60	466
83 Behavioral Studies	(3) Understands that interactions among learning, inheritance, and physical development affec human behavior	2.87	18*	47.73	304*
84 Science	(13) Knows the kinds of forces that exist between objects and within atoms	2.87	18	34.10	216
85 Behavioral Studies	(2) Understands various meanings of social group, general implications of group membership, and different ways that groups function	2.86	18*	49.37	304*
86 Geography	(6) Understands that culture and experience influence people's perceptions of places and regions	2.83	17*	29.15	171*
87 Economics	(10) Understands basic concepts about international economics	2.83	16	27.70	157
88 U.S. History	(7) Understands the impact of the American Revolution on politics, economy, and society	2.79	18	62.80	599
89 World History	(32) Understands the causes and consequences of political revolutions in the late 18th and early 19th centuries	2.78	18	35.40	232
90 World History	(26) Understands how the transoceanic interlinking of all major regions of the world between 1450 and 1600 led to global transformations	2.77	18	50.30	331
91 U.S. History	(11) Understands the extension, restriction, and reorganization of political democracy after 1800	2.68	17*	45.45	295*
92 World History	(34) Understands how Eurasian societies were transformed in an era of global trade and the emergence of European power from 1750 to 1870	2.67	17	37.90	242
93 Science	(10) Understands basic concepts about the structure and properties of matter	2.66	17	43.10	277
94 Language Arts	(3) Uses grammatical and mechanical conventions in written compositions	2.65	15	83.10	485

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Subject	Standard	% Definitely Not	N	% Definitely	N
95. Economics	(9) Understands how Gross Domestic Product and inflation and deflation provide indications of the state of the economy	2.56	15*	37.25	214*
96. Language Arts	(5) Demonstrates competence in the general skills and strategies of the reading process	2.54	8*	53.55	237*
97. Science	(12) Understands motion and the principles that explain it	2.49	16	36.10	231
98. Geography	(5) Understands the concept of regions	2.44	14*	24.97	145*
99. Working with Others	(1) Contributes to the overall effort of a group	2.43	14	58.70	337
100. World History	(29) Understands the economic, political, and cultural interrelations among peoples of Africa, Europe, and the Americas between 1500 and 1750	2.38	16	48.30	317
101. Geography	(9) Understands the nature, distribution, and migration of human populations on Earth's surface	2.38	14*	31.97	187*
102. World History	(37) Understands major global trends from 1750 to 1914	2.35	16	37.70	248
103. Civics	(11) Understands the role of diversity in American life and the importance of shared values, political beliefs, and civic beliefs in an increasingly diverse American society	2.34	14	55.30	322
104. Geography	(10) Understands the nature and complexity of Earth's cultural mosaics	2.34	13*	33.10	191*
105. Mathematics	(8) Understands and applies basic and advanced properties of functions and algebra	2.32	15*	30.25	198*
106. Thinking and Reasoning	(6) Applies decision-making techniques	2.29	13	41.30	236
107. Economics	(4) Understands basic features of market structures and exchanges	2.26	13*	43.70	251*
108. Mathematics	(7) Understands and applies basic and advanced concepts of probability	2.24	15	29.80	196
109. Civics	(23) Understands the impact of significant political and nonpolitical developments on the United States and other nations	2.23	13	31.80	183
110. Language Arts	(8) Demonstrates competence in speaking and listening as tools for learning	2.22	13*	45.03	263*
111. Thinking and Reasoning	(2) Understands and applies basic principles of logic and reasoning	2.21	13	43.40	247
112. Civics	(29) Understands the importance of political leadership, public service, and a knowledgeable citizenry in American constitutional democracy	2.17	13	49.60	286
113. Civics	(28) Understands how participation in civic and political life can help citizens attain individual and public goals	2.17	13	49.60	286

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Subject	Standard	% Definitely Not	N	% Definitely	N
114. Economics	(2) Understands characteristics of different economic systems, economic institutions, and economic incentives	2.14	13*	39.80	230*
115. Economics	(1) Understands that scarcity of productive resources requires choices that generate opportunity costs	2.13	12*	36.03	203*
116. U.S. History	(9) Understands the United States territorial expansion between 1801 and 1861, and how it affected relations with external powers and Native Americans	2.07	14*	47.50	307*
117. Economics	(7) Understands savings, investment, and interest rates	2.07	12	48.20	278
118. World History	(38) Understands reform, revolution, and social change in the world economy in the early century	2.03	13	44.50	273
119. Life Work	(6) Makes effective use of basic life skills	1.98	12	68.20	397
120. Language Arts	(6) Demonstrates competence in general skills and strategies for reading a variety of literary texts	1.96	11*	44.23	254*
121. Civics	(7) Understands alternative forms of representation and how they serve the purposes of constitutional government	1.95	11	38.50	220
122. U.S. History	(4) Understands how political, religious, and social institutions emerged in the North American colonies	1.94	13	55.80	365
123. Thinking and Reasoning	(3) Effectively uses mental processes that are based on identifying similarities and differences (compares, contrasts, classifies)	1.89	11	57.10	329
124. Geography	(4) Understands the physical and human characteristics of place	1.88	11*	32.70	227*
125. Working with Others	(4) Displays effective interpersonal communication skills	1.87	11	66.20	388
126. World History	(44) Understands the search for community, stability, and peace in an interdependent world	1.86	12	60.10	403
127. Civics	(25) Understands issues regarding personal, political, and economic rights	1.85	11	45.00	262
128. Civics	(26) Understands issues regarding the proper scope and limits of rights and the relationships among personal, political, and economic rights	1.85	11	45.00	262
129. Civics	(17) Understands issues concerning the relationship between state and local governments and the national government and issues pertaining to representation at all three levels of government	1.84	11	49.70	322
130. Civics	(16) Understands the major responsibilities of the national government for domestic and foreign policy, and understands how government is financed through taxation	1.82	11	55.30	324
131. U.S. History	(19) Understands federal Indian policy and United States foreign policy after the Civil War	1.80	12*	37.90	243*
132. Self-Regulation	(3) Considers risks	1.78	10	67.30	394

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Subject	Standard	% Definitely Not	N	% Definitely	N
133. World History	(45) Understands major global trends since Word War II	1.77	12*	64.45	47*
134. Life Work	(3) Manages money effectively	1.76	10	71.80	424
135. Civics	(15) Understands how the United States Constitution grants and distributes power and responsibilities to national and state government and how it seeks to prevent the abuse of power	1.75	11*	62.45	368*
136. Historical Understanding	(1) Understands and knows how to analyze chronological relationships and patterns	1.74	10*	30.93	180*
137. Geography	(17) Understands how geography is used to interpret the past	1.74	10	33.20	192
138. Technology	(5) Understands the nature and operation of systems	1.74	11	44.80	288
139. Thinking and Reasoning	(1) Understands and applies the basic principles of presenting an argument	1.73	10	57.80	335
140. Physical Education	(5) Understands the social and personal responsibility associated with participation in physical activity	1.70	11	57.20	376
141. World History	(33) Understands the causes and consequences of the agricultural and industrial revolutions from 1700 to 1850	1.69	11	48.50	318
142. Geography	(16) Understands the changes that occur in the meaning, use, distribution, and importance of resources	1.67	10*	50.45	296*
143. Self-Regulation	(6) Restrains impulsivity	1.67	10	59.20	347
144. Science	(15) Understands the nature of scientific inquiry	1.64	10	47.30	293
145. Science	(16) Understands the scientific enterprise	1.63	10	54.60	344
146. Life Work	(1) Makes effective use of basic tools	1.61	9	52.60	307
147. U.S. History	(14) Understands the course and character of the Civil War and its effects on the American people	1.57	10*	54.45	353*
148. Life Work	(5) Makes general preparation for entering the work force	1.56	9	70.90	417
149. Working with Others	(2) Uses conflict-resolution techniques	1.56	9	54.60	317
150. Civics	(12) Understands the relationships among liberalism, republicanism, and American constitutional democracy	1.55	9	35.70	211
151. U.S. History	(2) Understands cultural and ecological interactions among previously unconnected people resulting from early European exploration and colonization	1.52	10	58.60	381
152. World History	(46) Understands long-term changes and recurring patterns in world history	1.52	10*	56.85	380*
153. Economics	(3) Understands the concept of prices and the interaction of supply and demand in a market economy	1.52	9	53.20	313

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Subject	Standard	% Definitely Not	N	% Definitely	N
154 Civics	(18) Understands the role and importance of law in the American constitutional system and issues regarding the judicial protection of individual rights	1.51	9*	55.47	325*
155 Life Work	(4) Pursues specific jobs	1.51	9	68.90	407
156 U.S. History	(24) Understands how the New Deal addressed the Great Depression, transformed American federalism, and initiated the welfare state	1.49	10	54.40	359
157 Mathematics	(5) Understands and applies basic and advanced properties of the concepts of geometry	1.49	10	35.00	230
158 Civics	(19) Understands what is meant by "the public agenda," how it is set, and how it is influenced by public opinion and the media	1.48	9	37.00	214
159 Science	(14) Understands the nature of scientific knowledge	1.46	9	53.50	336
160 U.S. History	(5) Understands how the values and institutions of European economic life took root in the colonies and how slavery reshaped European and African life in the Americas	1.43	9	50.90	332
161 Health	(10) Understands the fundamental concepts of growth and development	1.43	10*	69.15	470*
162 World History	(43) Understands how post-World War II reconstruction occurred, new international power relations took shape, and colonial empires broke up	1.42	10*	61.10	408*
163 Civics	(10) Understands the roles of voluntarism and organized groups in American social and political life	1.41	8	34.50	200
164 U.S. History	(21) Understands the changing role of the United States in world affairs through World War I	1.38	9	52.00	342
165 Working with Others	(3) Works well with diverse individuals and in diverse situations	1.37	8	66.70	386
166 Life Work	(2) Uses various information sources, including those of a technical nature, to accomplish specific tasks	1.37	8	53.70	314
167 World History	(36) Understands patterns of global change in the era of Western military and economic domination from 1850 to 1914	1.35	9	48.00	318
168 Thinking and Reasoning	(5) Applies basic trouble-shooting and problem-solving techniques	1.35	8	62.70	363
169 Working with Others	(5) Demonstrates leadership skills	1.34	8	54.00	315
170 Historical Understanding	(2) Understands the historical perspective	1.34	8*	42.70	249*
171 U.S. History	(23) Understands the causes of the Great Depression and how it affected American society	1.33	9	67.60	446
172 Life Work	(8) Operates effectively within organizations	1.33	8	72.20	423
173 Life Work	(7) Displays reliability and a basic work ethic	1.33	8	72.20	423

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Subject	Standard	% Definitely Not	N	% Definitely	N
174 Physical Education	(4) Understands how to monitor and maintain a health-enhancing level of physical fitness	1.32	8*	59.83	393*
175 Geography	(15) Understands how physical systems affect human systems	1.29	8*	45.05	267*
176 U.S. History	(29) Understands the struggle for racial and gender equality and for the extension of civil liberties	1.28	8	53.70	346
177 Civics	(3) Understands the sources, purposes, and functions of law and the importance of the rule of law for the protection of individual rights and the common good	1.28	8	68.30	404
178 Civics	(8) Understands the central ideas of American constitutional government and how this form of government has shaped the character of American society	1.27	8	64.90	171
179 Economics	(5) Understands unemployment, income, and income distribution in a market economy	1.26	7*	49.60	290*
180 U.S. History	(20) Understands how Progressives and others addressed problems of industrial capitalism, urbanization, and political corruption	1.23	8*	43.45	283*
181 World History	(42) Understands major global trends from 1900 to the end of World War II	1.21	8	56.10	373
182 World History	(39) Understands the causes and global consequences of World War I	1.21	8	56.10	373
183 Civics	(21) Understands the formation and implementation of public policy	1.19	7	42.90	248
184 Civics	(24) Understands the meaning of citizenship in the United States, and knows the requirements for citizenship and naturalization	1.19	7	68.50	401
185 Language Arts	(7) Demonstrates competence in the general skills and strategies for reading a variety of informational texts	1.19	7*	65.45	384*
186 Technology	(4) Understands the nature of technological design	1.17	7	49.90	317
187 Language Arts	(2) Demonstrates competence in the stylistic and rhetorical aspects of writing	1.17	7	60.00	351
188 U.S. History	(12) Understands the sources and character of cultural, religious, and social reform movements in the antebellum period	1.14	7*	48.30	311*
189 Health	(3) Understands the relationship of family health to individual health	1.12	8	80.40	551
190 U.S. History	(15) Understands how various reconstruction plans succeeded or failed	1.11	7	47.00	304
191 Geography	(7) Knows the physical processes that shape patterns on Earth's surface	1.11	6*	56.77	328*
192 Civics	(4) Understands the concept of a constitution, the various purposes that constitutions serve, and the conditions that contribute to the establishment and maintenance of constitutional government	1.10	6	65.60	386

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Subject	Standard	% Definitely Not	N	% Definitely	N
193. Science	(8) Understands the cycling of matter and flow of energy through the living environment	1.10	7	54.80	356
194. U.S. History	(3) Understands why the Americas attracted Europeans, why they brought enslaved Africans to their colonies, and how Europeans struggled for control of North America and the Caribbean	1.09	7	50.20	326
195. Science	(2) Understands basic Earth processes	1.09	7*	46.35	304*
196. World History	(35) Understands patterns of nationalism, state-building, and social reform in Europe and the Americas from 1830 to 1914	1.04	7	51.50	342
197. Mathematics	(2) Understands and applies basic and advanced properties of the concepts of numbers	1.02	7	43.40	291
198. Self-Regulation	(5) Maintains a healthy self-concept	1.00	6	60.80	357
199. U.S. History	(30) Understands developments in foreign and domestic policies between the Nixon and Clinton presidencies	0.97	6	46.30	302
200. U.S. History	(10) Understands how the industrial revolution, increasing immigration, the rapid expansion of slavery, and the westward movement changed American lives and led to regional tensions	0.96	6	54.40	355
201. Civics	(2) Understands the essential characteristics of limited and unlimited governments	0.93	5	54.10	319
202. Self-Regulation	(2) Performs self-appraisal	0.93	5	58.00	339
203. Health	(1) Knows the availability and effective use of health services, products, and information	0.91	6	72.10	495
204. Science	(3) Understands essential ideas about the composition and structure of the universe and the Earth's place in it	0.90	6	50.70	332
205. U.S. History	(6) Understands the causes of the American Revolution, the ideas and interests involved in shaping the revolutionary movement, and reasons for the American victory	0.90	6	71.80	473
206. U.S. History	(27) Understands how the Cold War and conflicts in Korea and Vietnam influenced domestic and international politics	0.90	6	53.20	289
207. Mathematics	(6) Understands and applies basic and advanced concepts of statistics and data analysis	0.88	6*	47.45	314*
208. Civics	(9) Understands the importance of Americans sharing and supporting certain values, beliefs, and principles of American constitutional democracy	0.87	5	62.40	369
209. Civics	(1) Understands ideas about civic life, politics, and government	0.86	5	65.20	385
210. U.S. History	(26) Understands the economic boom and social transformation of post-World War II United States	0.86	6	49.10	318
211. Language Arts	(4) Gathers and uses information for research purposes	0.84	5	61.30	355

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Subject	Standard	% Definitely Not	N	% Definitely	N
212. Self-Regulation	(4) Demonstrates perseverance	0.83	5	54.70	32[illegible]
213. U.S. History	(25) Understands the causes and course of World War II, the character of the war at home and abroad, and its reshaping of the U.S. role in world affairs	0.83	5	66.40	47[illegible]
214. Self-Regulation	(1) Sets and manages goals	0.83	5	58.70	342
215. Economics	(6) Understands the roles government plays in the United States economy	0.80	5*	56.85	332*
216. World History	(40) Understands the search for peace and stability throughout the world in the 1920s and 1930s	0.75	5	68.40	458
217. Science	(6) Knows the general structure and functions of cells in organisms	0.74	5	47.40	308
218. U.S. History	(31) Understands economic, social, and cultural developments in the contemporary United States	0.73	5	47.30	309
219. Language Arts	(1) Demonstrates competence in the general skills and strategies of the writing process	0.72	4*	62.65	364*
220. World History	(41) Understands the causes and global consequences of World War II	0.71	5	72.70	487
221. U.S. History	(28) Understands domestic policies in the post-World War II period	0.68	4	44.40	347
222. Science	(11) Understands energy types, sources, and conversions, and their relationship to heat and temperature	0.68	4	50.60	330
223. U.S. History	(17) Understands massive immigration after 1870 and how new social patterns, conflicts, and ideas of national unity developed amid growing cultural diversity	0.67	4	41.30	265
224. Geography	(8) Understands the characteristics of ecosystems on Earth's surface	0.67	4*	62.17	364*
225. U.S. History	(13) Understands the causes of the Civil War	0.67	4	71.20	466
226. Civics	(5) Understands the major characteristics of systems of shared powers and of parliamentary systems	0.65	4	50.70	297
227. Mathematics	(1) Uses a variety of strategies in the problem-solving process	0.61	4	60.50	408
228. Behavioral Studies	(1) Understands that group and cultural influences contribute to human development, identity, and behavior	0.60	4*	53.85	346*
229. U.S. History	(18) Understands the rise of the American labor movement and how political issues reflected social and economic changes	0.59	4	49.10	320
230. Science	(5) Understands the genetic basis for the transfer of biological characteristics from one generation to the next	0.58	4	55.40	360
231. Mathematics	(9) Understands the general nature and uses of mathematics	0.52	4	69.10	468

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Subject	Standard	% Definitely Not	N	% Definitely	N
232. U.S. History	(22) Understands how the United States changed between the post-World War I years and the eve of the Great Depression	0.50	59	57.30	377
233. Mathematics	(4) Understands and applies basic and advanced properties of the concepts of measurement	0.50	3	69.10	466
234. U.S. History	(16) Understands how the rise of corporations, heavy industry, and mechanized farming transformed American society	0.49	3	53.40	344
235. Technology	(3) Understands relationships among science, technology, society, and the individual	0.48	3	45.60	296
236. Health	(2) Knows environmental and external factors that affect individual and community health	0.37	3	60.50	414
237. Health	(7) Knows how to maintain and promote personal health	0.37	3	68.60	551
238. Science	(7) Understands how species depend on one another and on the environment for survival	0.32	2	66.60	439
239. Health	(4) Knows how to maintain mental and emotional health	0.29	2	76.00	521
240. Mathematics	(3) Uses basic and advanced procedures while performing the processes of computation	0.29	2*	66.55	451*
241. Health	(8) Knows essential concepts about the prevention and control of disease	0.21	1	79.40	546
242. Technology	(2) Knows the characteristics and uses of computer software programs	0.17	1	76.50	504
243. Science	(1) Understands basic features of the Earth	0.11	1	68.90	458
244. Health	(6) Understands essential concepts about nutrition and diet	0.11	1	71.80	489
245. Technology	(1) Knows the characteristics and uses of computer hardware and operating systems	0.09	1	70.00	458
246. Health	(9) Understands aspects of substance use and abuse	0.09	1	89.60	611
247. Health	(5) Knows essential concepts and practices concerning injury prevention and safety	0.06	0**	70.90	484
248. Geography	(1) Understands the characteristics and uses of maps, globes, and other geographic tools and technologies	0.00	0	74.20	444

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APPENDIX K
MORE THAN HIGH SCHOOL
(DEFINITELY NOT)

	Subject Area	Standard	Percent	N
1	Theatre	(4) Directs scenes and productions	33.66	92
2	Music	(4) Composes and arranges music within specified guidelines	33.35	91
3	Theatre	(3) Designs and produces informal and formal productions	31.55	86
4	Music	(3) Improvises melodies, variations, and accompaniments	24.31	66
5	Music	(5) Reads and notates music	24.02	66
6	Theatre	(1) Demonstrates competence in writing scripts	21.97	60
7	Music	(6) Knows and applies appropriate criteria to music and music performances	19.47	53
8	Dance	(1) Identifies and demonstrates movement elements and skills in performing dance	18.90	51
9	Dance	(2) Understands choreographic principles, processes, and structures	18.66	51
10	Music	(1) Sings, alone and with others, a varied repertoire of music	17.06	46
11	Dance	(4) Applies critical and creative thinking skills in dance	16.46	44
12	Music	(2) Performs on instruments, alone and with others, a varied repertoire of music	15.26	42
13	Theatre	(2) Uses acting skills	14.93	41
14	World History	(19) Understands the maturation of an interregional system of communication, trade, and cultural exchange during a period of Chinese economic power and Islamic expansion	12.24	38*
15	Foreign Language	(3) Presents information, concepts, and ideas to an audience of listeners or readers on a variety of topics	11.98	39*
16	World History	(16) Understands the development of agricultural societies and new states in tropical Africa and Oceania	11.68	36
17	Visual Arts	(1) Understands and applies media, techniques, and processes related to the visual arts	11.42	31
18	World History	(22) Understands the growth of states, towns, and trade in Sub-Saharan Africa between the 11th and 15th centuries	10.71	33
19	World History	(12) Understands the Imperial crises and their aftermath in various regions from 300 to 700 CE	9.45	29*
20	Physical Education	(1) Uses a variety of basic and advanced movement forms	8.68	27
21	World History	(14) Understands major developments in East Asia and Southeast Asia in the era of the Tang Dynasty from 600 to 900 CE	8.26	26
22	World History	(13) Understands the causes and consequences of the development of Islamic civilization between the 7th and 10th centuries	7.88	24
23	Dance	(3) Understands dance as a way to create and communicate meaning	7.86	22
24	Foreign Language	(2) Comprehends and interprets written and spoken language on diverse topics from diverse media	7.52	25*
25	Dance	(5) Understands dance in various cultures and historical periods	7.44	20

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	Subject Area	Standard	Percent	N
26.	World History	(7) Understands technological and cultural innovation and change from 1000 to 600 BCE	7.04	28*
27.	Dance	(6) Understands connections between dance and healthful living	7.04	17
28.	World History	(18) Understands major global trends from 300 to 1000 CE	6.75	21*
29.	Theatre	(5) Understands how informal and formal theatre, film, television, and electronic media productions create and communicate meaning	6.54	18
30.	Science	(9) Understands the basic concepts of the evolution of species	6.39	20
31.	World History	(20) Understands the redefinition of European society and culture from 1000 to 1300 CE	5.98	16
32.	World History	(21) Understands the rise of the Mongol empire and its consequences for Eurasian peoples from 1200 to 1350	5.88	19
33.	World History	(23) Understands patterns of crisis and recovery in Afro-Eurasia between 1300 and 1450	5.34	17*
34.	Geography	(13) Understands the forces of cooperation and conflict that shape the divisions of Earth's surface	5.16	14*
35.	Visual Arts	(5) Understands the characteristics and merits of one's own artwork and the artwork of others	4.88	13
36.	Civics	(27) Understands how certain character traits enhance citizens' ability to fulfill personal and civic responsibilities	4.83	13
37.	Physical Education	(3) Understands the benefits and costs associated with participation in physical activity	4.81	15*
38.	World History	(24) Understands the expansion of states and civilizations in the Americas between 1000 and 1500	4.57	14
39.	World History	(25) Understands major global trends from 1000 to 1500 CE	4.57	14
40.	World History	(30) Understands transformations in Asian societies in the era of European expansion	4.41	14
41.	Theatre	(6) Understands the context in which theatre, film, television, and electronic media are performed today as well as in the past	4.11	11
42.	World History	(6) Understands major trends in Eurasia and Africa from 4000 to 1000 BCE	4.11	13
43.	World History	(3) Understands the major characteristics of civilization and the development of civilizations in Mesopotamia, Egypt, and the Indus Valley	4.11	13
44.	Foreign Language	(1) Uses the target language to engage in conversations, express feelings and emotions, and exchange opinions and information	4.03	13*
45.	World History	(15) Understands the political, social, and cultural redefinitions in Europe from 500 to 1000 CE	4.01	13
46.	Visual Arts	(2) Knows how to use the structures (e.g., sensory qualities, organizational principles, expressive features) and functions of art	3.86	11
47.	World History	(17) Understands the rise of centers of civilization in Mesoamerica and Andean South America in the first millennium CE	3.74	12
48.	World History	(10) Understands how early agrarian civilizations arose in Mesoamerica	3.74	12
49.	Economics	(8) Understands basic concepts of United States fiscal policy and monetary policy	3.59	10

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	Subject Area	Standard	Percent	N
50.	World History	(8) Understands how Aegean civilization emerged and how interrelations develop, among peoples of the eastern Mediterranean and Southwest Asia from 600 to 200 BCE	3.46	11
51.	Economics	(10) Understands basic concepts about international economics	3.45	9
52.	U.S. History	(1) Understands the characteristics of societies in the Americas, Western Europe, and Western Africa that increasingly interacted after 1450	3.31	10
53.	Physical Education	(2) Uses movement concepts and principles in the development of motor skills	3.27	10*
54.	Visual Arts	(4) Understands the visual arts in relation to history and cultures	3.22	9
55.	World History	(28) Understands how large territorial empires dominated much of Eurasia between the 16th and 18th centuries	3.22	10
56.	Geography	(2) Knows the location of places, geographic features, and patterns of the environment	3.15	13*
57.	World History	(9) Understands how major religious and large-scale empires arose in the Mediterranean Basin, China, and India from 500 BCE to 300 CE	3.14	10
58.	World History	(11) Understands major global trends from 1000 BCE to 300 CE	3.14	10
59.	Geography	(3) Understands the characteristics and uses of spatial organization of Earth's surface	3.12	12*
60.	Visual Arts	(3) Knows a range of subject matter, symbols, and potential ideas in the visual arts	3.09	8
61.	Geography	(14) Understands how human actions modify the physical environment	3.06	8*
62.	World History	(31) Understands major global trends from 1450 to 1770	3.02	10
63.	Language Arts	(8) Demonstrates competence in speaking and listening as tools for learning	2.97	8*
64.	World History	(1) Understands the biological and cultural processes that shaped the earliest human communities	2.97	10*
65.	Physical Education	(5) Understands the social and personal responsibility associated with participation in physical activity	2.93	9
66.	Geography	(18) Understands global development and environmental issues	2.87	8*
67.	World History	(5) Understands the political, social, and cultural consequences of population movements and militarization in Eurasia in the second millennium BCE	2.71	9
68.	Civics	(22) Understands how the world is organized politically into nation-states, how nation-states interact with one another, and issues surrounding U.S. foreign policy	2.68	7*
69.	Civics	(19) Understands what is meant by "the public agenda," how it is set, and how it is influenced by public opinion and the media	2.68	7
70.	Foreign Language	(4) Demonstrates knowledge and understanding of traditional ideas and perspectives, institutions, professions, literary and artistic expressions, and other components of target culture	2.67	9*
71.	Geography	(12) Understands the patterns of human settlement and their causes	2.63	7*
72.	Life Work	(6) Makes effective use of basic life skills	2.60	7
73.	Technology	(5) Understands the nature and operation of systems	2.59	8
74.	Geography	(5) Understands the concept of regions	2.56	5*

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Subject Area	Standard	Percent	N
75. Geography	(6) Understands that culture and experience influence people's perceptions of places and regions	2.51	7*
76. Life Work	(3) Manages money effectively	2.45	7
77. Technology	(4) Understands the nature of technological design	2.43	7
78. Mathematics	(8) Understands and applies basic and advanced properties of functions and algebra	2.42	8*
79. Mathematics	(7) Understands and applies basic and advanced concepts of probability	2.41	8
80. World History	(32) Understands the causes and consequences of political revolutions in the late 18th and early 19th centuries	2.33	8
81. World History	(2) Understands the processes that contributed to the emergence of agricultural societies around the world	2.32	8
82. Civics	(23) Understands the impact of significant political and nonpolitical developments on the United States and other nations	2.28	6
83. U.S. History	(3) Understands why the Americas attracted Europeans, why they brought enslaved Africans to their colonies, and how Europeans struggled for control of North America and the Caribbean	2.26	7
84. Science	(13) Knows the kinds of forces that exist between objects and within atoms	2.25	7
85. Economics	(9) Understands how Gross Domestic Product and inflation and deflation provide indications of the state of the economy	2.21	7*
86. Foreign Language	(5) Recognizes that different languages use different patterns to communicate and applies this knowledge to the native language	2.21	7
87. Physical Education	(4) Understands how to monitor and maintain a health-enhancing level of physical fitness	2.19	7*
88. Mathematics	(5) Understands and applies basic and advanced properties of the concepts of geometry	2.13	7
89. U.S. History	(19) Understands federal Indian policy and United States foreign policy after the Civil War	2.11	7*
90. World History	(29) Understands the economic, political, and cultural interrelations among peoples of Africa, Europe, and the Americas between 1500 and 1750	2.10	7
91. Self-Regulation	(5) Maintains a healthy self-concept	2.10	6
92. Behavioral Studies	(4) Understands conflict, cooperation, and interdependence among individuals, groups, and institutions	2.09	6*
93. Economics	(7) Understands savings, investment, and interest rates	2.08	6
94. Civics	(6) Understands the advantages and disadvantages of federal, confederal, and unitary systems of government	2.07	6
95. World History	(37) Understands major global trends from 1750 to 1914	2.05	7
96. Civics	(20) Understands the roles of political parties, campaigns, elections, and associations and groups in American politics	2.03	6*
97. World History	(34) Understands how Eurasian societies were transformed in an era of global trade and the emergence of European power from 1750 to 1870	1.99	6
98. Thinking and Reasoning	(6) Applies decision-making techniquesp	1.97	5

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Subject Area	Standard	Percent	N
99. Civics	(14) Understands issues concerning the disp[illegible]s between ideals and reality in American political and social life	1.95	5
100. Geography	(9) Understands the nature, distribution, and migration of human populations on Earth's surface	1.93	5*
101. U.S. History	(20) Understands how Progressives and others addressed problems of industrial capitalism, urbanization, and political corruption	1.92	6*
102. Science	(12) Understands motion and the principles that explain it	1.92	6
103. Thinking and Reasoning	(2) Understands and applies basic principles of logic and reasoning	1.91	5
104. Civics	(13) Understands the character of American political and social conflict and factors that tend to prevent or lower its intensity	1.88	5
105. Behavioral Studies	(2) Understands various meanings of social group, general implications of group membership, and different ways that groups function	1.88	6*
106. Life Work	(1) Makes effective use of basic tools	1.86	5
107. Civics	(11) Understands the role of diversity in American life and the importance of shared values, political beliefs, and civic beliefs in an increasingly diverse American society	1.85	5
108. Self-Regulation	(6) Restrains impulsivity	1.84	5
109. Science	(15) Understands the nature of scientific inquiry	1.81	5
110. Language Arts	(5) Demonstrates competence in the general skills and strategies of the reading process	1.80	3*
111. Economics	(4) Understands basic features of market structures and exchanges	1.79	5*
112. Economics	(2) Understands characteristics of different economic systems, economic institutions, and economic incentives	1.78	5*
113. Historical Understanding	(1) Understands and knows how to analyze chronological relationships and patterns	1.76	5*
114. Life Work	(5) Makes general preparation for entering the work force	1.75	5
115. Working with Others	(2) Uses conflict-resolution techniques	1.70	5
116. World History	(44) Understands the search for community, stability, and peace in an interdependent world	1.70	6
117. Civics	(10) Understands the roles of voluntarism and organized groups in American social and political life	1.69	5
118. Life Work	(4) Pursues specific jobs	1.67	5
119. Health	(10) Understands the fundamental concepts of growth and development	1.66	6*
120. Civics	(18) Understands the role and importance of law in the American constitutional system and issues regarding the judicial protection of individual rights	1.63	4*
121. Historical Understanding	(2) Understands the historical perspective	1.63	5*
122. Civics	(12) Understands the relationships among liberalism, republicanism, and American constitutional democracy	1.61	4

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Subject Area	Standard	Percent	N
123. World History	(27) Understands how European society experienced political, economic, and cultural transformations in an age of global intercommunication between 1450 and 1750	1.57	5*
124. World History	(4) Understands how agrarian societies spread and new states emerged in the third and second millennia BCE	1.56	5
125. Thinking and Reasoning	(3) Effectively uses mental processes that are based on identifying similarities and differences (compares, contrasts, classifies)	1.56	4
126. Civics	(7) Understands alternative forms of representation and how they serve the purposes of constitutional government	1.54	4
127. Thinking and Reasoning	(4) Understands and applies basic principles of hypothesis testing and scientific inquiry	1.53	4
128. Mathematics	(6) Understands and applies basic and advanced concepts of statistics and data analysis	1.52	5*
129. U.S. History	(11) Understands the extension, restriction, and reorganization of political democracy after 1800	1.52	5*
130. U.S. History	(4) Understands how political, religious, and social institutions emerged in the North American colonies	1.49	5
131. Geography	(11) Understands the patterns and networks of economic interdependence on Earth's surface	1.49	4*
132. Economics	(1) Understands that scarcity of productive resources requires choices that generate opportunity costs	1.48	4*
133. Science	(10) Understands basic concepts about the structure and properties of matter	1.47	5
134. World History	(45) Understands major global trends since Word War II	1.47	5*
135. Civics	(17) Understands issues concerning the relationship between state and local governments and the national government and issues pertaining to representation at all three levels of government	1.47	4
136. U.S. History	(24) Understands how the New Deal addressed the Great Depression, transformed American federalism, and initiated the welfare state	1.46	5
137. Economics	(5) Understands unemployment, income, and income distribution in a market economy	1.46	4*
138. Music	(7) Understands the relationship between music and history and culture	1.45	16
139. Civics	(16) Understands the major responsibilities of the national government for domestic and foreign policy, and understands how government is financed through taxation	1.45	4
140. Language Arts	(6) Demonstrates competence in general skills and strategies for reading a variety of literary texts	1.45	4*
141. U.S. History	(2) Understands cultural and ecological interactions among previously unconnected people resulting from early European exploration and colonization	1.42	4
142. U.S. History	(5) Understands how the values and institutions of European economic life took root in the colonies and how slavery reshaped European and African life in the Americas	1.42	4
143. U.S. History	(9) Understands the United States territorial expansion between 1801 and 1861, and how it affected relations with external powers and Native Americans	1.41	5*
144. Geography	(15) Understands how physical systems affect human systems	1.40	4*

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Subject Area	Standard	Percent	N
145. Working with Others	(1) Contributes to the overall effort of a group	1.38	4
146. U.S. History	(17) Understands massive immigration after 1870 and how new social patterns, conflicts, and ideas of national unity developed amid growing cultural diversity	1.38	4
147. U.S. History	(10) Understands how the industrial revolution, increasing immigration, the rapid expansion of slavery, and the westward movement changed American lives and led to regional tensions	1.37	4
148. Self-Regulation	(3) Considers risks	1.37	4
149. Science	(4) Knows about the diversity and unity that characterize life	1.33	4
150. Self-Regulation	(4) Demonstrates perseverance	1.32	4
151. U.S. History	(8) Understands the institutions and practices of government created during the revolution and how these elements were revised between 1787 and 1815 to create the foundation of the American political system based on the U.S. Constitution and the Bill of Rights	1.31	4
152. Working with Others	(5) Demonstrates leadership skills	1.29	4
153. Life Work	(7) Displays reliability and a basic work ethic	1.27	4
154. Life Work	(8) Operates effectively within organizations	1.27	4
155. U.S. History	(15) Understands how various reconstruction plans succeeded or failed	1.27	4
156. U.S. History	(18) Understands the rise of the American labor movement and how political issues reflected social and economic changes	1.25	4
157. World History	(33) Understands the causes and consequences of the agricultural and industrial revolutions from 1700 to 1850	1.22	4
158. Thinking and Reasoning	(1) Understands and applies the basic principles of presenting an argument	1.22	3
159. Mathematics	(2) Understands and applies basic and advanced properties of the concepts of numbers	1.20	4
160. Geography	(10) Understands the nature and complexity of Earth's cultural mosaics	1.18	3*
161. Geography	(17) Understands how geography is used to interpret the past	1.17	3
162. Civics	(26) Understands issues regarding the proper scope and limits of rights and the relationships among personal, political, and economic rights	1.14	3
163. Civics	(25) Understands issues regarding personal, political, and economic rights	1.14	3
164. Geography	(8) Understands the characteristics of ecosystems on Earth's surface	1.13	3*
165. World History	(36) Understands patterns of global change in the era of Western military and economic domination from 1850 to 1914	1.13	4
166. Science	(14) Understands the nature of scientific knowledge	1.13	3
167. U.S. History	(6) Understands the causes of the American Revolution, the ideas and interests involved in shaping the revolutionary movement, and reasons for the American victory	1.12	4
168. U.S. History	(12) Understands the sources and character of cultural, religious, and social reform movements in the antebellum period	1.10	4*
169. U.S. History	(28) Understands domestic policies in the post-World War II period	1.10	3

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Subject Area	Standard	Percent	N
170. U.S. History	(26) Understands the economic boom and social transformation of post-World War II United States	1.07	3
171. Science	(16) Understands the scientific enterprise	1.07	3
172. Art Connections	(1) Understands connections among the various art forms and other disciplines	1.07	3
173. U.S. History	(21) Understands the changing role of the United States in world affairs through World War I	1.06	3
174. Civics	(15) Understands how the United States Constitution grants and distributes power and responsibilities to national and state government and how it seeks to prevent the abuse of power	1.06	3*
175. U.S. History	(22) Understands how the United States changed between the post-World War I years and the eve of the Great Depression	1.05	23
176. World History	(43) Understands how post-World War II reconstruction occurred, new international power relations took shape, and colonial empires broke up	1.04	4*
177. World History	(35) Understands patterns of nationalism, state-building, and social reform in Europe and the Americas from 1830 to 1914	1.03	3
178. Geography	(4) Understands the physical and human characteristics of place	1.02	3*
179. U.S. History	(25) Understands the causes and course of World War II, the character of the war at home and abroad, and its reshaping of the U.S. role in world affairs	1.01	3
180. U.S. History	(16) Understands how the rise of corporations, heavy industry, and mechanized farming transformed American society	1.01	3
181. World History	(40) Understands the search for peace and stability throughout the world in the 1920s and 1930s	1.00	3
182. Technology	(3) Understands relationships among science, technology, society, and the individual	1.00	3
183. Language Arts	(3) Uses grammatical and mechanical conventions in written compositions	0.98	3
184. Civics	(21) Understands the formation and implementation of public policy	0.96	3
185. World History	(38) Understands reform, revolution, and social change in the world economy in the early century	0.95	3
186. World History	(26) Understands how the transoceanic interlinking of all major regions of the world between 1450 and 1600 led to global transformations	0.94	3
187. Civics	(5) Understands the major characteristics of systems of shared powers and of parliamentary systems	0.93	3
188. Civics	(29) Understands the importance of political leadership, public service, and a knowledgeable citizenry in American constitutional democracy	0.93	3
189. Civics	(28) Understands how participation in civic and political life can help citizens attain individual and public goals	0.93	3
190. Science	(2) Understands basic Earth processes	0.91	3*
191. Language Arts	(4) Gathers and uses information for research purposes	0.90	3
192. Civics	(2) Understands the essential characteristics of limited and unlimited governments	0.87	2
193. Thinking and Reasoning	(5) Applies basic trouble-shooting and problem-solving techniques	0.86	2
194. Behavioral Studies	(1) Understands that group and cultural influences contribute to human development, identity, and behavior	0.86	3*

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Subject Area	Standard	Percent	N
195 Health	(1) Knows the availability and effective use of health services, products, and information	0.86	3
196 Self-Regulation	(2) Performs self-appraisal	0.85	2
197 Behavioral Studies	(3) Understands that interactions among learning, inheritance, and physical development affect human behavior	0.84	3*
198 World History	(42) Understands major global trends from 1900 to the end of World War II	0.84	3
199 World History	(39) Understands the causes and global consequences of World War I	0.84	3
200 Science	(6) Knows the general structure and functions of cells in organisms	0.82	3
201 Life Work	(2) Uses various information sources, including those of a technical nature, to accomplish specific tasks	0.82	2
202 U.S. History	(29) Understands the struggle for racial and gender equality and for the extension of civil liberties	0.80	2
203 Civics	(4) Understands the concept of a constitution, the various purposes that constitutions serve, and the conditions that contribute to the establishment and maintenance of constitutional government	0.80	2
204 U.S. History	(7) Understands the impact of the American Revolution on politics, economy, and society	0.78	2
205 U.S. History	(23) Understands the causes of the Great Depression and how it affected American society	0.78	2
206 Health	(2) Knows environmental and external factors that affect individual and community health	0.78	3
207 Health	(7) Knows how to maintain and promote personal health	0.78	3
208 Geography	(7) Knows the physical processes that shape patterns on Earth's surface	0.75	2*
209 Working with Others	(4) Displays effective interpersonal communication skills	0.75	2
210 Health	(3) Understands the relationship of family health to individual health	0.73	2
211 Geography	(16) Understands the changes that occur in the meaning, use, distribution, and importance of resources	0.71	2*
212 U.S. History	(14) Understands the course and character of the Civil War and its effects on the American people	0.70	4*
213 Science	(11) Understands energy types, sources, and conversions, and their relationship to heat and temperature	0.69	2
214 Science	(7) Understands how species depend on one another and on the environment for survival	0.68	2
215 Economics	(3) Understands the concept of prices and the interaction of supply and demand in a market economy	0.66	2
216 Working with Others	(3) Works well with diverse individuals and in diverse situations	0.65	2
217 Economics	(6) Understands the roles government plays in the United States economy	0.63	2*
218 Health	(4) Knows how to maintain mental and emotional health	0.61	2
219 U.S. History	(30) Understands developments in foreign and domestic policies between the Nixon and Clinton presidencies	0.58	2

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Subject Area	Standard	Percent	N
220 Civics	(9) Understands the importance of Americans sharing and supporting certain values, beliefs, and principles of American constitutional democracy	0.56	2
221 U.S. History	(31) Understands economic, social, and cultural developments in the contemporary United States	0.55	2
222 Mathematics	(9) Understands the general nature and uses of mathematics	0.54	2
223 Science	(8) Understands the cycling of matter and flow of energy through the living environment	0.51	2
224 Language Arts	(2) Demonstrates competence in the stylistic and rhetorical aspects of writing	0.50	1
225 Science	(3) Understands essential ideas about the composition and structure of the universe and the Earth's place in it	0.43	1
226 U.S. History	(27) Understands how the Cold War and conflicts in Korea and Vietnam influenced domestic and international politics	0.43	1
227 Health	(8) Knows essential concepts about the prevention and control of disease	0.43	1
228 Civics	(24) Understands the meaning of citizenship in the United States, and knows the requirements for citizenship and naturalization	0.39	1
229 World History	(41) Understands the causes and global consequences of World War II	0.38	1
230 Language Arts	(1) Demonstrates competence in the general skills and strategies of the writing process	0.38	1*
231 Technology	(2) Knows the characteristics and uses of computer software programs	0.36	1
232 Civics	(3) Understands the sources, purposes, and functions of law and the importance of the rule of law for the protection of individual rights and the common good	0.35	1
233 Mathematics	(1) Uses a variety of strategies in the problem-solving process	0.34	1
234 Mathematics	(3) Uses basic and advanced procedures while performing the processes of computation	0.33	1*
235 Civics	(8) Understands the central ideas of American constitutional government and how this form of government has shaped the character of American society	0.33	1
236 Civics	(1) Understands ideas about civic life, politics, and government	0.31	1
237 U.S. History	(13) Understands the causes of the Civil War	0.27	1
238 World History	(46) Understands long-term changes and recurring patterns in world history	0.25	1*
239 Science	(1) Understands basic features of the Earth	0.23	1
240 Self-Regulation	(1) Sets and manages goals	0.22	1
241 Health	(6) Understands essential concepts about nutrition and diet	0.22	1
242 Health	(9) Understands aspects of substance use and abuse	0.19	1
243 Technology	(1) Knows the characteristics and uses of computer hardware and operating systems	0.18	1
244 Science	(5) Understands the genetic basis for the transfer of biological characteristics from one generation to the next	0.16	1
245 Health	(5) Knows essential concepts and practices concerning injury prevention and safety	0.13	0**
246 Mathematics	(4) Understands and applies basic and advanced properties of the concepts of measurement	0.11	0**

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Subject Area	Standard	Percent	\
247 Language Arts	(7) Demonstrates competence in the general skills and strategies for reading a variety of informational texts	0.09	0*
248 Geography	(1) Understands the characteristics and uses of maps, globes, and other geographic tools and technologies	0.08	0

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APPENDIX L
HIGH SCHOOL OR LESS
(DEFINITELY NOT)

	Subject Area	Standard	Percent	N
1	Music	(4) Composes and arranges music within specified guidelines	29.70	85
2	Theatre	(4) Directs scenes and productions	28.69	84
3	Theatre	(3) Designs and produces informal and formal productions	26.67	79
4	Dance	(1) Identifies and demonstrates movement elements and skills in performing dance	23.63	70
5	Music	(3) Improvises melodies, variations, and accompaniments	22.45	65
6	Dance	(2) Understands choreographic principles, processes, and structures	18.45	56
7	Music	(6) Knows and applies appropriate criteria to music and music performances	17.41	52
8	World History	(20) Understands the redefinition of European society and culture from 1000 to 1300 CE	17.08	46
9	Theatre	(1) Demonstrates competence in writing scripts	16.75	50
10	Music	(5) Reads and notates music	16.38	49
11	Dance	(4) Applies critical and creative thinking skills in dance	15.52	46
12	World History	(19) Understands the maturation of an interregional system of communication, trade, and cultural exchange during a period of Chinese economic power and Islamic expansion	15.44	49
13	World History	(16) Understands the development of agricultural societies and new states in tropical Africa and Oceania	14.42	45
14	Theatre	(2) Uses acting skills	13.85	41
15	World History	(22) Understands the growth of states, towns, and trade in Sub-Saharan Africa between the 11th and 15th centuries	13.47	44
16	Music	(1) Sings, alone and with others, a varied repertoire of music	13.43	40
17	World History	(14) Understands major developments in East Asia and Southeast Asia in the era of the Tang Dynasty from 600 to 9[illegible] CE	13.20	42
18	World History	(7) Understands technological and cultural innovation and change from 1000 to 600 BCE	13.01	42*
19	World History	(13) Understands the causes and consequences of the development of Islamic civilization between the 7th and 10th centuries	12.98	42
20	World History	(21) Understands the rise of the Mongol empire and its consequences for Eurasian peoples from 1200 to 1350	12.75	40
21	World History	(12) Understands the Imperial crises and their aftermath in various regions from 300 to 700 CE	12.40	39*
22	Music	(2) Performs on instruments, alone and with others, a varied repertoire of music	11.89	35
23	Dance	(3) Understands dance as a way to create and communicate meaning	11.74	34
24	World History	(18) Understands major global trends from 300 to 1000 CE	11.33	37*
25	Foreign Language	(3) Presents information, concepts, and ideas to an audience of listeners or readers on a variety of topics	10.79	36*

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Subject Area	Standard	Percent	N
26. Theatre	(5) Understands how informal and formal theatre, film, television, and electronic media productions create and communicate meaning	10.71	32
27. Science	(9) Understands the basic concepts of the evolution of species	10.60	34
28. World History	(6) Understands major trends in Eurasia and Africa from 4000 to 1000 BCE	10.50	35
29. World History	(3) Understands the major characteristics of civilization and the development of civilizations in Mesopotamia, Egypt, and the Indus Valley	10.50	35
30. World History	(23) Understands patterns of crisis and recovery in Afro-Eurasia between 1300 and 1450	9.88	32*
31. Foreign Language	(2) Comprehends and interprets written and spoken language on diverse topics from diverse media	9.26	31*
32. World History	(24) Understands the expansion of states and civilizations in the Americas between 1000 and 1500	9.18	30
33. World History	(25) Understands major global trends from 1000 to 1500 CE	9.18	30
34. World History	(17) Understands the rise of centers of civilization in Mesoamerica and Andean South America in the first millennium CE	9.10	30
35. World History	(10) Understands how early agrarian civilizations arose in Mesoamerica	9.10	30
36. Dance	(6) Understands connections between dance and healthful living	8.59	25
37. World History	(8) Understands how Aegean civilization emerged and how interrelations developed among peoples of the eastern Mediterranean and Southwest Asia from 600 to 200 BCE	8.58	27
38. World History	(15) Understands the political, social, and cultural redefinitions in Europe from 500 to 1000 CE	8.49	27
39. World History	(9) Understands how major religious and large-scale empires arose in the Mediterranean Basin, China, and India from 500 BCE to 300 CE	7.98	27
40. World History	(11) Understands major global trends from 1000 BCE to 300 CE	7.98	27
41. Theatre	(6) Understands the context in which theatre, film, television, and electronic media are performed today as well as in the past	7.71	24
42. Geography	(13) Understands the forces of cooperation and conflict that shape the divisions of Earth's surface	7.58	22*
43. Physical Education	(1) Uses a variety of basic and advanced movement forms	7.56	25
44. World History	(1) Understands the biological and cultural processes that shaped the earliest human communities	7.27	25*
45. World History	(28) Understands how large territorial empires dominated much of Eurasia between the 16th and 18th centuries	7.19	23
46. Visual Arts	(2) Knows how to use the structures (e.g., sensory qualities, organizational principles, expressive features) and functions of art	7.10	21
47. Visual Arts	(3) Knows a range of subject matter, symbols, and potential ideas in the visual arts	7.03	21
48. Art Connections	(1) Understands connections among the various art forms and other disciplines	7.03	21
49. Visual Arts	(1) Understands and applies media, techniques, and processes related to the visual arts	6.88	21
50. World History	(2) Understands the processes that contributed to the emergence of agricultural societies around the world	6.68	23

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	Subject Area	Standard	Percent	N
51	Thinking and Reasoning	(4) Understands and applies basic principles of hypothesis testing and scientific inquiry	6.01	17
52	Visual Arts	(4) Understands the visual arts in relation to history and cultures	5.95	18
53	World History	(27) Understands how European society experienced political, economic, and cultural transformations in an age of global intercommunication between 1450 and 1750	5.92	20*
54	Dance	(5) Understands dance in various cultures and historical periods	5.91	17
55	World History	(5) Understands the political, social, and cultural consequences of population movements and militarization in Eurasia in the second millennium BCE	5.89	20
56	Foreign Language	(1) Uses the target language to engage in conversations, express feelings and emotions, and exchange opinions and information	5.72	19*
57	Geography	(14) Understands how human actions modify the physical environment	5.65	8*
58	Civics	(6) Understands the advantages and disadvantages of federal, confederal, and unitary systems of government	5.32	16
59	Music	(7) Understands the relationship between music and history and culture	5.32	14
60	World History	(4) Understands how agrarian societies spread and new states emerged in the third and second millennia BCE	5.09	18
61	Visual Arts	(5) Understands the characteristics and merits of one's own artwork and the artwork of others	4.73	14
62	Behavioral Studies	(3) Understands that interactions among learning, inheritance, and physical development affect human behavior	4.62	15*
63	World History	(26) Understands how the transoceanic interlinking of all major regions of the world between 1450 and 1600 led to global transformations	4.55	15
64	Civics	(13) Understands the character of American political and social conflict and factors that tend to prevent or lower its intensity	4.53	14
65	U.S. History	(8) Understands the institutions and practices of government created during the revolution and how these elements were revised between 1787 and 1815 to create the foundation of the American political system based on the U.S Constitution and the Bill of Rights	4.46	15
66	Civics	(20) Understands the roles of political parties, campaigns, elections, and associations and groups in American politics	4.38	13*
67	Geography	(11) Understands the patterns and networks of economic interdependence on Earth's surface	4.31	4*
68	Language Arts	(3) Uses grammatical and mechanical conventions in written compositions	4.26	13
69	Science	(4) Knows about the diversity and unity that characterize life	4.12	13
70	U.S. History	(7) Understands the impact of the American Revolution on politics, economy, and society	4.08	14
71	Civics	(14) Understands issues concerning the disparities between ideals and reality in American political and social life	4.04	12
72	Civics	(27) Understands how certain character traits enhance citizens' ability to fulfill personal and civic responsibilities	3.99	12
73	Geography	(2) Knows the location of places, geographic features, and patterns of the environment	3.92	12*

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	Subject Area	Standard	Percent	N
74	Behavioral Studies	(4) Understands conflict, cooperation, and interdependence among individuals, groups, and institutions	3.89	13*
75	World History	(31) Understands major global trends from 1450 to 1770	3.89	12
76	Foreign Language	(4) Demonstrates knowledge and understanding of traditional ideas and perspectives, institutions, professions, literary and artistic expressions, and other components of target culture	3.73	13*
77	Geography	(12) Understands the patterns of human settlement and their causes	3.66	10*
78	Behavioral Studies	(2) Understands various meanings of social group, general implications of group membership, and different ways that groups function	3.62	11*
79	Foreign Language	(5) Recognizes that different languages use different patterns to communicate and applies this knowledge to the native language	3.60	12
80	Science	(10) Understands basic concepts about the structure and properties of matter	3.52	12
81	U.S. History	(11) Understands the extension, restriction, and reorganization of political democracy after 1800	3.49	12*
82	Language Arts	(5) Demonstrates competence in the general skills and strategies of the reading process	3.47	5*
83	Working with Others	(1) Contributes to the overall effort of a group	3.45	10
84	Civics	(22) Understands how the world is organized politically into nation-states, how nation-states interact with one another, and issues surrounding U.S. foreign policy	3.43	10*
85	World History	(34) Understands how Eurasian societies were transformed in an era of global trade and the emergence of European power from 1750 to 1870	3.38	11
86	Geography	(10) Understands the nature and complexity of Earth's cultural mosaics	3.37	10*
87	Civics	(29) Understands the importance of political leadership, public service, and a knowledgeable citizenry in American constitutional democracy	3.36	10
88	Civics	(28) Understands how participation in civic and political life can help citizens attain individual and public goals	3.36	10
89	World History	(30) Understands transformations in Asian societies in the era of European expansion	3.31	11
90	Geography	(18) Understands global development and environmental issues	3.24	10*
91	World History	(32) Understands the causes and consequences of political revolutions in the late 18th and early 19th centuries	3.23	11
92	Science	(13) Knows the kinds of forces that exist between objects and within atoms	3.19	10
93	Geography	(3) Understands the characteristics and uses of spatial organization of Earth's surface	3.15	9*
94	World History	(38) Understands reform, revolution, and social change in the world economy in the early century	3.06	10
95	Geography	(6) Understands that culture and experience influence people's perceptions of places and regions	3.05	10*
96	Working with Others	(4) Displays effective interpersonal communication skills	2.95	9
97	Economics	(9) Understands how Gross Domestic Product and inflation and deflation provide indications of the state of the economy	2.90	9*

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Subject Area	Standard	Percent	N
98. Civics	(11) Understands the role of diversity in American life and the importance of shared values, political beliefs, and civic beliefs in an increasingly diverse American society	2.83	8
99. Geography	(9) Understands the nature, distribution, and migration of human populations on Earth's surface	2.82	9*
100. Economics	(1) Understands that scarcity of productive resources requires choices that generate opportunity costs	2.74	8*
101. World History	(46) Understands long-term changes and recurring patterns in world history	2.73	10*
102. Economics	(4) Understands basic features of market structures and exchanges	2.72	8*
103. Geography	(4) Understands the physical and human characteristics of place	2.69	8*
104. World History	(29) Understands the economic, political, and cultural interrelations among peoples of Africa, Europe, and the Americas between 1500 and 1750	2.67	9
105. Economics	(8) Understands basic concepts of United States fiscal policy and monetary policy	2.66	8
106. World History	(37) Understands major global trends from 1750 to 1914	2.64	9
107. Thinking and Reasoning	(6) Applies decision-making techniques	2.62	8
108. U.S. History	(9) Understands the United States territorial expansion between 1801 and 1861, and how it affected relations with external powers and Native Americans	2.58	9*
109. Geography	(16) Understands the changes that occur in the meaning, use, distribution, and importance of resources	2.58	8*
110. Thinking and Reasoning	(2) Understands and applies basic principles of logic and reasoning	2.53	7
111. Language Arts	(6) Demonstrates competence in general skills and strategies for reading a variety of literary texts	2.47	7*
112. Economics	(2) Understands characteristics of different economic systems, economic institutions, and economic incentives	2.46	8*
113. Science	(12) Understands motion and the principles that explain it	2.44	8
114. U.S. History	(1) Understands the characteristics of societies in the Americas, Western Europe, and Western Africa that increasingly interacted after 1450	2.43	8
115. Civics	(15) Understands how the United States Constitution grants and distributes power and responsibilities to national and state government and how it seeks to prevent the abuse of power	2.40	8*
116. U.S. History	(14) Understands the course and character of the Civil War and its effects on the American people	2.39	9*
117. Physical Education	(2) Uses movement concepts and principles in the development of motor skills	2.38	8*
118. U.S. History	(4) Understands how political, religious, and social institutions emerged in the North American colonies	2.38	8
119. Geography	(5) Understands the concept of regions	2.36	5*
120. Civics	(7) Understands alternative forms of representation and how they serve the purposes of constitutional government	2.35	7
121. Economics	(3) Understands the concept of prices and the interaction of supply and demand in a market economy	2.32	7

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Subject Area	Standard	Percent	N
122. Geography	(17) Understands how geography is used to interpret the past	2.29	7
123. Economics	(10) Understands basic concepts about international economics	2.26	7
124. Mathematics	(8) Understands and applies basic and advanced properties of functions and algebra	2.23	105*
125. Language Arts	(7) Demonstrates competence in the general skills and strategies for reading a variety of informational texts	2.23	7*
126. Civics	(23) Understands the impact of significant political and nonpolitical developments on the United States and other nations	2.22	7
127. Thinking and Reasoning	(1) Understands and applies the basic principles of presenting an argument	2.22	7
128. Thinking and Reasoning	(3) Effectively uses mental processes that are based on identifying similarities and differences (compares, contrasts, classifies)	2.22	7
129. Civics	(17) Understands issues concerning the relationship between state and local governments and the national government and issues pertaining to representation at all three levels of government	2.20	7
130. Civics	(16) Understands the major responsibilities of the national government for domestic and foreign policy, and understands how government is financed through taxation	2.19	7
131. Civics	(25) Understands issues regarding personal, political, and economic rights	2.19	7
132. Civics	(26) Understands issues regarding the proper scope and limits of rights and the relationships among personal, political, and economic rights	2.19	7
133. Self-Regulation	(3) Considers risks	2.18	7
134. Civics	(3) Understands the sources, purposes, and functions of law and the importance of the rule of law for the protection of individual rights and the common good	2.17	7
135. Civics	(8) Understands the central ideas of American constitutional government and how this form of government has shaped the character of American society	2.16	7
136. World History	(33) Understands the causes and consequences of the agricultural and industrial revolutions from 1700 to 1850	2.15	7
137. Working with Others	(3) Works well with diverse individuals and in diverse situations	2.09	6
138. Mathematics	(7) Understands and applies basic and advanced concepts of probability	2.08	7
139. Economics	(7) Understands savings, investment, and interest rates	2.08	6
140. World History	(45) Understands major global trends since Word War II	2.06	8*
141. World History	(44) Understands the search for community, stability, and peace in an interdependent world	2.03	7
142. Civics	(24) Understands the meaning of citizenship in the United States, and knows the requirements for citizenship and naturalization	1.96	6
143. Physical Education	(3) Understands the benefits and costs associated with participation in physical activity	1.91	7*
144. Life Work	(2) Uses various information sources, including those of a technical nature, to accomplish specific tasks	1.89	6
145. Science	(16) Understands the scientific enterprise	1.87	6

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Subject Area	Standard	Percent	N
146. U.S. History	(23) Understands the causes of the Great Depression and how it affected American society	1.85	6
147. Thinking and Reasoning	(5) Applies basic trouble-shooting and problem-solving techniques	1.83	5
148. Language Arts	(2) Demonstrates competence in the stylistic and rhetorical aspects of writing	1.80	5
149. World History	(43) Understands how post-World War II reconstruction occurred, new international power relations took shape, and colonial empires broke up	1.79	6*
150. U.S. History	(29) Understands the struggle for racial and gender equality and for the extension of civil liberties	1.75	6
151. Historical Understanding	(1) Understands and knows how to analyze chronological relationships and patterns	1.73	6*
152. U.S. History	(21) Understands the changing role of the United States in world affairs through World War I	1.69	6
153. World History	(36) Understands patterns of global change in the era of Western military and economic domination from 1850 to 1914	1.58	5
154. World History	(42) Understands major global trends from 1900 to the end of World War II	1.57	5
155. World History	(39) Understands the causes and global consequences of World War I	1.57	5
156. Language Arts	(8) Demonstrates competence in speaking and listening as tools for learning	1.54	6*
157. Self-Regulation	(6) Restrains impulsivity	1.53	5
158. Civics	(12) Understands the relationships among liberalism, republicanism, and American constitutional democracy	1.52	5
159. Science	(15) Understands the nature of scientific inquiry	1.51	5
160. Health	(3) Understands the relationship of family health to individual health	1.48	5
161. Science	(14) Understands the nature of scientific knowledge	1.48	5
162. U.S. History	(5) Understands how the values and institutions of European economic life took root in the colonies and how slavery reshaped European and African life in the Americas	1.46	5
163. Civics	(21) Understands the formation and implementation of public policy	1.44	4
164. Working with Others	(2) Uses conflict-resolution techniques	1.43	4
165. Life Work	(6) Makes effective use of basic life skills	1.42	4
166. Civics	(18) Understands the role and importance of law in the American constitutional system and issues regarding the judicial protection of individual rights	1.42	5*
167. Life Work	(7) Displays reliability and a basic work ethic	1.41	4
168. Life Work	(8) Operates effectively within organizations	1.41	4
169. Civics	(4) Understands the concept of a constitution, the various purposes that constitutions serve, and the conditions that contribute to the establishment and maintenance of constitutional government	1.40	4
170. Life Work	(5) Makes general preparation for entering the work force	1.40	4
171. Self-Regulation	(1) Sets and manages goals	1.40	4

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Subject Area	Standard	Percent	N
172 Working with Others	(5) Demonstrates leadership skills	1.40	4
173 Life Work	(1) Makes effective use of basic tools	1.39	4
174 Geography	(7) Knows the physical processes that shape patterns on Earth's surface	1.39	4*
175 Life Work	(4) Pursues specific jobs	1.39	4
176 Civics	(1) Understands ideas about civic life, politics, and government	1.38	4
177 U.S. History	(2) Understands cultural and ecological interactions among previously unconnected people resulting from early European exploration and colonization	1.35	4
178 Science	(8) Understands the cycling of matter and flow of energy through the living environment	1.35	5
179 U.S. History	(30) Understands developments in foreign and domestic policies between the Nixon and Clinton presidencies	1.34	5
180 Science	(2) Understands basic Earth processes	1.27	4*
181 U.S. History	(24) Understands how the New Deal addressed the Great Depression, transformed American federalism, and initiated the welfare state	1.25	4
182 U.S. History	(19) Understands federal Indian policy and United States foreign policy after the Civil War	1.24	4*
183 Health	(10) Understands the fundamental concepts of growth and development	1.23	4*
184 Civics	(10) Understands the roles of voluntarism and organized groups in American social and political life	1.19	4
185 Life Work	(3) Manages money effectively	1.16	4
186 Civics	(9) Understands the importance of Americans sharing and supporting certain values, beliefs, and principles of American constitutional democracy	1.16	4
187 Geography	(15) Understands how physical systems affect human systems	1.12	4*
188 Economics	(5) Understands unemployment, income, and income distribution in a market economy	1.08	3*
189 Historical Understanding	(2) Understands the historical perspective	1.08	3*
190 World History	(35) Understands patterns of nationalism, state-building, and social reform in Europe and the Americas from 1830 to 1914	1.06	4
191 Science	(3) Understands essential ideas about the composition and structure of the universe and the Earth's place in it	1.04	4
192 U.S. History	(13) Understands the causes of the Civil War	1.04	4
193 U.S. History	(27) Understands how the Cold War and conflicts in Korea and Vietnam influenced domestic and international politics	1.04	4
194 Language Arts	(1) Demonstrates competence in the general skills and strategies of the writing process	1.04	4*
195 U.S. History	(12) Understands the sources and character of cultural, religious, and social reform movements in the antebellum period	1.03	3*
196 World History	(41) Understands the causes and global consequences of World War II	1.02	4
197 Civics	(2) Understands the essential characteristics of limited and unlimited governments	1.01	3

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Subject Area	Standard	Percent	N
198. Self-Regulation	(2) Performs self-appraisal	1.01	3
199. Health	(1) Knows the availability and effective use of health services, products, and information	0.96	3
200. Economics	(6) Understands the roles government plays in the United States economy	0.95	3*
201. Mathematics	(5) Understands and applies basic and advanced properties of the concepts of geometry	0.89	3
202. Mathematics	(2) Understands and applies basic and advanced properties of the concepts of numbers	0.86	3
203. Mathematics	(1) Uses a variety of strategies in the problem-solving process	0.86	3
204. Mathematics	(4) Understands and applies basic and advanced properties of the concepts of measurement	0.86	3
205. Language Arts	(4) Gathers and uses information for research purposes	0.80	2
206. U.S. History	(6) Understands the causes of the American Revolution, the ideas and interests involved in shaping the revolutionary movement, and reasons for the American victory	0.71	2
207. Science	(5) Understands the genetic basis for the transfer of biological characteristics from one generation to the next	0.68	2
208. Science	(6) Knows the general structure and functions of cells in organisms	0.68	2
209. U.S. History	(15) Understands how various reconstruction plans succeeded or failed	0.68	2
210. U.S. History	(26) Understands the economic boom and social transformation of post-World War II United States	0.68	2
211. U.S. History	(31) Understands economic, social, and cultural developments in the contemporary United States	0.67	2
212. U.S. History	(25) Understands the causes and course of World War II, the character of the war at home and abroad, and its reshaping of the U.S. role in world affairs	0.67	2
213. Technology	(5) Understands the nature and operation of systems	0.67	21
214. Science	(11) Understands energy types, sources, and conversions, and their relationship to heat and temperature	0.67	2
215. Physical Education	(5) Understands the social and personal responsibility associated with participation in physical activity	0.60	2
216. U.S. History	(20) Understands how Progressives and others addressed problems of industrial capitalism, urbanization, and political corruption	0.60	2*
217. U.S. History	(10) Understands how the industrial revolution, increasing immigration, the rapid expansion of slavery, and the westward movement changed American lives and led to regional tensions	0.60	2
218. World History	(40) Understands the search for peace and stability throughout the world in the 1920s and 1930s	0.52	2
219. Mathematics	(9) Understands the general nature and uses of mathematics	0.50	2
220. Physical Education	(4) Understands how to monitor and maintain a health-enhancing level of physical fitness	0.47	2*
221. Civics	(5) Understands the major characteristics of systems of shared powers and of parliamentary systems	0.39	1

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Subject Area	Standard	Percent	N
222 Civics	(19) Understands what is meant by "the public agenda," how it is set, and how it is influenced by public opinion and the media	0.39	1
223 Self-Regulation	(4) Demonstrates perseverance	0.39	1
224 Behavioral Studies	(1) Understands that group and cultural influences contribute to human development, identity, and behavior	0.37	1*
225 Mathematics	(6) Understands and applies basic and advanced concepts of statistics and data analysis	0.27	1*
226 Geography	(8) Understands the characteristics of ecosystems on Earth's surface	0.26	1*
227 Mathematics	(3) Uses basic and advanced procedures while performing the processes of computation	0.25	1*
228 U.S. History	(28) Understands domestic policies in the post-World War II period	0.00	0
229 Health	(2) Knows environmental and external factors that affect individual and community health	0.00	0
230 Health	(4) Knows how to maintain mental and emotional health	0.00	0
231 Geography	(1) Understands the characteristics and uses of maps, globes, and other geographic tools and technologies	0.00	0
232 Technology	(2) Knows the characteristics and uses of computer software programs	0.00	0
233 U.S. History	(22) Understands how the United States changed between the post-World War I years and the eve of the Great Depression	0.00	0
234 U.S. History	(18) Understands the rise of the American labor movement and how political issues reflected social and economic changes	0.00	0
235 U.S. History	(17) Understands massive immigration after 1870 and how new social patterns, conflicts, and ideas of national unity developed amid growing cultural diversity	0.00	0
236 U.S. History	(16) Understands how the rise of corporations, heavy industry, and mechanized farming transformed American society	0.00	0
237 Health	(5) Knows essential concepts and practices concerning injury prevention and safety	0.00	0
238 U.S. History	(3) Understands why the Americas attracted Europeans, why they brought enslaved Africans to their colonies, and how Europeans struggled for control of North America and the Caribbean	0.00	0
239 Health	(6) Understands essential concepts about nutrition and diet	0.00	0
240 Technology	(3) Understands relationships among science, technology, society, and the individual	0.00	0
241 Self-Regulation	(5) Maintains a healthy self-concept	0.00	0
242 Health	(7) Knows how to maintain and promote personal health	0.00	0
243 Technology	(1) Knows the characteristics and uses of computer hardware and operating systems	0.00	0
244 Health	(8) Knows essential concepts about the prevention and control of disease	0.00	0
245 Science	(7) Understands how species depend on one another and on the environment for survival	0.00	0
246 Health	(9) Understands aspects of substance use and abuse	0.00	0
247 Science	(1) Understands basic features of the Earth	0.00	0

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Subject Area	Standard	Percent	N
248 Technology	(4) Understands the nature of technological design	0.00	0

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APPENDIX M
45 YEARS OF AGE AND OVER
(DEFINITELY NOT)

	Subject	Standard	Percent	N
1	Theatre	(4) Directs scenes and productions	31.48	74
2	Music	(4) Composes and arranges music within specified guidelines	30.99	74
3	Theatre	(3) Designs and produces informal and formal productions	27.97	67
4	Theatre	(1) Demonstrates competence in writing scripts	23.94	58
5	Music	(3) Improvises melodies, variations, and accompaniments	23.52	55
6	Music	(6) Knows and applies appropriate criteria to music and music performances	23.23	57
7	Music	(5) Reads and notates music	21.98	54
8	Dance	(2) Understands choreographic principles, processes, and structures	21.09	51
9	Dance	(1) Identifies and demonstrates movement elements and skills in performing dance	19.23	46
10	Dance	(4) Applies critical and creative thinking skills in dance	18.41	44
11	World History	(19) Understands the maturation of an interregional system of communication, trade, and cultural exchange during a period of Chinese economic power and Islamic expansion	17.17	51
12	Theatre	(2) Uses acting skills	16.73	41
13	World History	(16) Understands the development of agricultural societies and new states in tropical Africa and Oceania	15.42	45
14	World History	(20) Understands the redefinition of European society and culture from 1000 to 1300 CE	14.35	38
15	World History	(22) Understands the growth of states, towns, and trade in Sub-Saharan Africa between the 11th and 15th centuries	14.00	42
16	World History	(21) Understands the rise of the Mongol empire and its consequences for Eurasian peoples from 1200 to 1350	12.77	38
17	Music	(2) Performs on instruments, alone and with others, a varied repertoire of music	12.59	30
18	Music	(1) Sings, alone and with others, a varied repertoire of music	12.21	30
19	World History	(13) Understands the causes and consequences of the development of Islamic civilization between the 7th and 10th centuries	11.99	35
20	Dance	(3) Understands dance as a way to create and communicate meaning	11.95	29
21	World History	(14) Understands major developments in East Asia and Southeast Asia in the era of the Tang Dynasty from 600 to 900 CE	11.73	34
22	World History	(12) Understands the Imperial crises and their aftermath in various regions from 300 to 700 CE	11.58	33*
23	Foreign Language	(3) Presents information, concepts, and ideas to an audience of listeners or readers on a variety of topics	11.50	35*
24	Dance	(5) Understands dance in various cultures and historical periods	10.81	26
25	Dance	(6) Understands connections between dance and healthful living	10.18	25
26	World History	(18) Understands major global trends from 300 to 1000 CE	10.10	30*

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Subject	Standard	Percent	N
27 World History	(7) Understands technological and cultural innovation and change from 1000 to 600 BCE	9.94	30*
28 World History	(23) Understands patterns of crisis and recovery in Afro-Eurasia between 1300 and 1450	9.68	29*
29 Theatre	(5) Understands how informal and formal theatre, film, television, and electronic media productions create and communicate meaning	9.60	23
30 Visual Arts	(1) Understands and applies media, techniques and processes related to the visual arts	9.29	23
31 World History	(25) Understands major global trends from 1000 to 1500 CE	8.39	25
32 World History	(24) Understands the expansion of states and civilizations in the Americas between 1000 and 1500	8.39	25
33 World History	(15) Understands the political, social, and cultural redefinitions in Europe from 500 to 1000 CE	8.14	24
34 Science	(9) Understands the basic concepts of the evolution of species	8.00	23
35 World History	(3) Understands the major characteristics of civilization and the development of civilizations in Mesopotamia, Egypt, and the Indus Valley	7.99	24
36 World History	(6) Understands major trends in Eurasia and Africa from 4000 to 1000 BCE	7.99	24
37 Visual Arts	(2) Knows how to use the structures (e.g., sensory qualities, organizational principles, expressive features) and functions of art	7.99	20
38 World History	(5) Understands the political, social, and cultural consequences of population movements and militarization in Eurasia in the second millennium BCE	7.27	23
39 World History	(28) Understands how large territorial empires dominated much of Eurasia between the 16th and 18th centuries	6.74	20
40 Physical Education	(1) Uses a variety of basic and advanced movement forms	6.61	20
41 Theatre	(6) Understands the context in which theatre, film, television, and electronic media are performed today as well as in the past	6.59	16
42 World History	(1) Understands the biological and cultural processes that shaped the earliest human communities	6.18	20*
43 World History	(2) Understands the processes that contributed to the emergence of agricultural societies around the world	6.13	20
44 World History	(17) Understands the rise of centers of civilization in Mesoamerica and Andean South America in the first millennium CE	6.04	19
45 World History	(10) Understands how early agrarian civilizations arose in Mesoamerica	6.04	19
46 World History	(8) Understands how Aegean civilization emerged and how interrelations developed among peoples of the eastern Mediterranean and Southwest Asia from 600 to 200 BCE	6.02	18
47 Foreign Language	(2) Comprehends and interprets written and spoken language on diverse topics from diverse media	5.92	18*
48 Music	(7) Understands the relationship between music and history and culture	5.88	6
49 World History	(11) Understands major global trends from 1000 BCE to 300 CE	5.86	18
50 World History	(9) Understands how major religious and large-scale empires arose in the Mediterranean Basin, China, and India from 500 BCE to 300 CE	5.86	18

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Subject	Standard	Percent	N
51 Thinking and Reasoning	(4) Understands and applies basic principles of hypothesis testing and scientific inquiry	5.37	13
52 Visual Arts	(3) Knows a range of subject matter, symbols, and potential ideas in the visual arts	5.36	13
53 Visual Arts	(4) Understands the visual arts in relation to history and cultures	5.22	13
54 Art Connections	(1) Understands connections among the various art forms and other disciplines	5.19	12
55 Civics	(11) Understands the role of diversity in American life and the importance of shared values, political beliefs, and civic beliefs in an increasingly diverse American society	5.07	13
56 Visual Arts	(5) Understands the characteristics and merits of one's own artwork and the artwork of others	4.87	12
57 Foreign Language	(1) Uses the target language to engage in conversations, express feelings and emotions, and exchange opinions and information	4.86	15*
58 Geography	(13) Understands the forces of cooperation and conflict that shape the divisions of Earth's surface	4.81	12*
59 World History	(27) Understands how European society experienced political, economic, and cultural transformations in an age of global intercommunication between 1450 and 1750	4.78	15*
60 World History	(26) Understands how the transoceanic interlinking of all major regions of the world between 1450 and 1600 led to global transformations	4.72	15
61 World History	(31) Understands major global trends from 1450 to 1770	4.72	14
62 World History	(30) Understands transformations in Asian societies in the era of European expansion	4.52	14
63 World History	(34) Understands how Eurasian societies were transformed in an era of global trade and the emergence of European power from 1750 to 1870	4.32	13
64 World History	(32) Understands the causes and consequences of political revolutions in the late 18th and early 19th centuries	3.99	12
65 Mathematics	(8) Understands and applies basic and advanced properties of functions and algebra	3.98	12*
66 Civics	(27) Understands how certain character traits enhance citizens' ability to fulfill personal and civic responsibilities	3.80	9
67 Economics	(8) Understands basic concepts of United States fiscal policy and monetary policy	3.64	7
68 World History	(29) Understands the economic, political, and cultural interrelations among peoples of Africa, Europe, and the Americas between 1500 and 1750	3.55	11
69 Geography	(6) Understands that culture and experience influence people's perceptions of places and regions	3.52	9*
70 Science	(13) Knows the kinds of forces that exist between objects and within atoms	3.51	10
71 Economics	(10) Understands basic concepts about international economics	3.50	8
72 Economics	(9) Understands how Gross Domestic Product and inflation and deflation provide indications of the state of the economy	3.41	8*
73 Civics	(6) Understands the advantages and disadvantages of federal, confederal, and unitary systems of government	3.32	8
74 Foreign Language	(4) Demonstrates knowledge and understanding of traditional ideas and perspectives, institutions, professions, literary and artistic expressions, and other components of target culture	3.30	10*

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Subject	Standard	Percent	N
75 Life Work	(6) Makes effective use of basic life skills	3.29	8
76 Thinking and Reasoning	(6) Applies decision-making techniques	3.29	8
77 World History	(4) Understands how agrarian societies spread and new states emerged in the third and second millennia BCE	3.28	10
78 World History	(37) Understands major global trends from 1750 to 1914	3.28	10
79 Behavioral Studies	(4) Understands conflict, cooperation, and interdependence among individuals, groups, and institutions	3.20	9*
80 Foreign Language	(5) Recognizes that different languages use different patterns to communicate and applies this knowledge to the native language	3.16	10
81 Civics	(23) Understands the impact of significant political and nonpolitical developments on the United States and other nations	3.13	8
82 Civics	(7) Understands alternative forms of representation and how they serve the purposes of constitutional government	3.12	8
83 Civics	(13) Understands the character of American political and social conflict and factors that tend to prevent or lower its intensity	3.05	7
84 Working with Others	(3) Works well with diverse individuals and in diverse situations	3.04	8
85 Geography	(14) Understands how human actions modify the physical environment	3.03	7*
86 Science	(12) Understands motion and the principles that explain it	2.97	9
87 Language Arts	(8) Demonstrates competence in speaking and listening as tools for learning	2.95	8*
88 Geography	(3) Understands the characteristics and uses of spatial organization of Earth's surface	2.94	8*
89 Working with Others	(1) Contributes to the overall effort of a group	2.92	7
90 Geography	(18) Understands global development and environmental issues	2.80	7*
91 Geography	(12) Understands the patterns of human settlement and their causes	2.76	7*
92 Economics	(7) Understands savings, investment, and interest rates	2.70	7
93 Civics	(22) Understands how the world is organized politically into nation-states, how nation-states interact with one another, and issues surrounding U.S. foreign policy	2.69	7*
94 Civics	(25) Understands issues regarding personal, political, and economic rights	2.68	7
95 Civics	(26) Understands issues regarding the proper scope and limits of rights and the relationships among personal, political, and economic rights	2.68	7
96 Civics	(17) Understands issues concerning the relationship between state and local governments and the national government and issues pertaining to representation at all three levels of government	2.67	7
97 Science	(10) Understands basic concepts about the structure and properties of matter	2.65	8
98 Thinking and Reasoning	(5) Applies basic trouble-shooting and problem-solving techniques	2.63	6
99 Geography	(2) Knows the location of places, geographic features, and patterns of the environment	2.62	7*

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Subject	Standard	Percent	N
100 Economics	(4) Understands basic features of market structures and exchanges	2.61	7*
101 Civics	(14) Understands issues concerning the disparities between ideals and reality in American political and social life	2.57	6
102 Working with Others	(2) Uses conflict-resolution techniques	2.57	6
103 Language Arts	(5) Demonstrates competence in the general skills and strategies of the reading process	2.56	4*
104 Working with Others	(5) Demonstrates leadership skills	2.55	6
105 Civics	(28) Understands how participation in civic and political life can help citizens attain individual and public goals	2.55	6
106 Civics	(29) Understands the importance of political leadership, public service, and a knowledgeable citizenry in American constitutional democracy	2.55	6
107 Civics	(16) Understands the major responsibilities of the national government for domestic and foreign policy, and understands how government is financed through taxation	2.54	6
108 World History	(33) Understands the causes and consequences of the agricultural and industrial revolutions from 1700 to 1850	2.54	8
109 Life Work	(4) Pursues specific jobs	2.47	6
110 World History	(38) Understands reform, revolution, and social change in the world economy in the early century	2.45	8
111 World History	(46) Understands long-term changes and recurring patterns in world history	2.42	8*
112 Geography	(10) Understands the nature and complexity of Earth's cultural mosaics	2.42	6*
113 Mathematics	(7) Understands and applies basic and advanced concepts of probability	2.39	7
114 Economics	(2) Understands characteristics of different economic systems, economic institutions, and economic incentives	2.38	6*
115 Economics	(5) Understands unemployment, income, and income distribution in a market economy	2.36	6*
116 Life Work	(1) Makes effective use of basic tools	2.32	6
117 Thinking and Reasoning	(3) Effectively uses mental processes that are based on identifying similarities and differences (compares, contrasts, classifies)	2.28	6
118 Life Work	(5) Makes general preparation for entering the work force	2.28	6
119 Civics	(21) Understands the formation and implementation of public policy	2.28	6
120 Science	(15) Understands the nature of scientific inquiry	2.27	6
121 Thinking and Reasoning	(2) Understands and applies basic principles of logic and reasoning	2.26	5
122 Physical Education	(3) Understands the benefits and costs associated with participation in physical activity	2.26	7*
123 Geography	(11) Understands the patterns and networks of economic interdependence on Earth's surface	2.24	6*
124 U.S. History	(7) Understands the impact of the American Revolution on politics, economy, and society	2.23	7

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Subject	Standard	Percent	N
125. Language Arts	(6) Demonstrates competence in general skills and strategies for reading a variety of literary texts	2.23	6*
126. Economics	(1) Understands that scarcity of productive resources requires choices that generate opportunity costs	2.16	5*
127. Geography	(5) Understands the concept of regions	2.14	6*
128. World History	(45) Understands major global trends since Word War II	2.11	7*
129. U.S. History	(8) Understands the institutions and practices of government created during the revolution and how these elements were revised between 1787 and 1815 to create the foundation of the American political system based on the U.S. Constitution and the Bill of Rights	2.09	6
130. Civics	(3) Understands the sources, purposes, and functions of law and the importance of the rule of law for the protection of individual rights and the common good	2.08	5
131. U.S. History	(23) Understands the causes of the Great Depression and how it affected American society	2.08	6
132. Science	(8) Understands the cycling of matter and flow of energy through the living environment	2.08	6
133. Civics	(12) Understands the relationships among liberalism, republicanism, and American constitutional democracy	2.06	5
134. Historical Understanding	(1) Understands and knows how to analyze chronological relationships and patterns	2.05	5*
135. Life Work	(7) Displays reliability and a basic work ethic	2.05	5
136. Life Work	(8) Operates effectively within organizations	2.05	5
137. Civics	(20) Understands the roles of political parties, campaigns, elections, and associations and groups in American politics	2.03	5*
138. Civics	(8) Understands the central ideas of American constitutional government and how this form of government has shaped the character of American society	2.03	5
139. World History	(44) Understands the search for community, stability, and peace in an interdependent world	2.00	6
140. Language Arts	(3) Uses grammatical and mechanical conventions in written compositions	1.97	5
141. Self-Regulation	(1) Sets and manages goals	1.96	5
142. Physical Education	(2) Uses movement concepts and principles in the development of motor skills	1.94	6*
143. World History	(36) Understands patterns of global change in the era of Western military and economic domination from 1850 to 1914	1.92	6
144. Technology	(5) Understands the nature and operation of systems	1.92	6
145. U.S. History	(24) Understands how the New Deal addressed the Great Depression, transformed American federalism, and initiated the welfare state	1.91	6
146. Thinking and Reasoning	(1) Understands and applies the basic principles of presenting an argument	1.90	5
147. Working with Others	(4) Displays effective interpersonal communication skills	1.90	5
148. Geography	(4) Understands the physical and human characteristics of place	1.89	5*

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Subject	Standard	Percent	N
149. Civics	(10) Understands the roles of voluntarism and organized groups in American social and political life	1.89	5
150. Geography	(7) Knows the physical processes that shape patterns on Earth's surface	1.88	5*
151. Behavioral Studies	(3) Understands that interactions among learning, inheritance, and physical development affect human behavior	1.87	5*
152. Civics	(4) Understands the concept of a constitution, the various purposes that constitutions serve, and the conditions that contribute to the establishment and maintenance of constitutional government	1.87	5
153. Health	(10) Understands the fundamental concepts of growth and development	1.87	6*
154. Science	(2) Understands basic Earth processes	1.86	6*
155. Physical Education	(5) Understands the social and personal responsibility associated with participation in physical activity	1.86	6
156. Science	(4) Knows about the diversity and unity that characterize life	1.85	5
157. U.S. History	(30) Understands developments in foreign and domestic policies between the Nixon and Clinton presidencies	1.82	6
158. Language Arts	(2) Demonstrates competence in the stylistic and rhetorical aspects of writing	1.79	4
159. Life Work	(2) Uses various information sources, including those of a technical nature, to accomplish specific tasks	1.79	4
160. Self-Regulation	(3) Considers risks	1.69	4
161. Civics	(1) Understands ideas about civic life, politics, and government	1.68	4
162. U.S. History	(19) Understands federal Indian policy and United States foreign policy after the Civil War	1.66	5*
163. World History	(43) Understands how post-World War II reconstruction occurred, new international power relations took shape, and colonial empires broke up	1.63	5*
164. Self-Regulation	(2) Performs self-appraisal	1.63	4
165. Health	(3) Understands the relationship of family health to individual health	1.63	5
166. Civics	(19) Understands what is meant by "the public agenda," how it is set, and how it is influenced by public opinion and the media	1.63	4
167. Civics	(15) Understands how the United States Constitution grants and distributes power and responsibilities to national and state government and how it seeks to prevent the abuse of power	1.60	4*
168. Geography	(17) Understands how geography is used to interpret the past	1.60	4
169. Life Work	(3) Manages money effectively	1.58	4
170. World History	(39) Understands the causes and global consequences of World War I	1.57	5
171. World History	(42) Understands major global trends from 1900 to the end of World War II	1.57	5
172. Science	(14) Understands the nature of scientific knowledge	1.53	4
173. Behavioral Studies	(2) Understands various meanings of social group, general implications of group membership, and different ways that groups function	1.52	4*
174. World History	(35) Understands patterns of nationalism, state-building, and social reform in Europe and the Americas from 1830 to 1914	1.51	5

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Subject	Standard	Percent	N
175. Geography	(9) Understands the nature, distribution, and migration of human populations on Earth's surface	1.51	4*
176. Economics	(3) Understands the concept of prices and the interaction of supply and demand in a market economy	1.50	4
177. Historical Understanding	(2) Understands the historical perspective	1.44	4*
178. Civics	(18) Understands the role and importance of law in the American constitutional system and issues regarding the judicial protection of individual rights	1.36	3*
179. Civics	(2) Understands the essential characteristics of limited and unlimited governments	1.36	3
180. Language Arts	(7) Demonstrates competence in the general skills and strategies for reading a variety of informational texts	1.32	4*
181. Science	(6) Knows the general structure and functions of cells in organisms	1.26	4
182. Science	(11) Understands energy types, sources, and conversions, and their relationship to heat and temperature	1.24	4
183. Technology	(4) Understands the nature of technological design	1.23	4
184. U.S. History	(11) Understands the extension, restriction, and reorganization of political democracy after 1800	1.20	4*
185. U.S. History	(1) Understands the characteristics of societies in the Americas, Western Europe, and Western Africa that increasingly interacted after 1450	1.19	4
186. Health	(1) Knows the availability and effective use of health services, products, and information	1.18	4
187. U.S. History	(29) Understands the struggle for racial and gender equality and for the extension of civil liberties	1.04	3
188. U.S. History	(26) Understands the economic boom and social transformation of post-World War II United States	1.04	3
189. Geography	(15) Understands how physical systems affect human systems	1.03	3*
190. U.S. History	(12) Understands the sources and character of cultural, religious, and social reform movements in the antebellum period	1.02	3*
191. Geography	(8) Understands the characteristics of ecosystems on Earth's surface	1.00	3*
192. Language Arts	(1) Demonstrates competence in the general skills and strategies of the writing process	0.97	3*
193. Science	(5) Understands the genetic basis for the transfer of biological characteristics from one generation to the next	0.93	3
194. U.S. History	(20) Understands how Progressives and others addressed problems of industrial capitalism, urbanization, and political corruption	0.93	3*
195. U.S. History	(15) Understands how various reconstruction plans succeeded or failed	0.93	3
196. Physical Education	(4) Understands how to monitor and maintain a health-enhancing level of physical fitness	0.93	3*
197. U.S. History	(21) Understands the changing role of the United States in world affairs through World War I	0.92	3
198. Civics	(24) Understands the meaning of citizenship in the United States, and knows the requirements for citizenship and naturalization	0.90	2

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Subject	Standard	Percent	N
199. U.S. History	(31) Understands economic, social, and cultural developments in the contemporary United States	0.88	3
200. Civics	(5) Understands the major characteristics of systems of shared powers and of parliamentary systems	0.86	2
201. Civics	(9) Understands the importance of Americans sharing and supporting certain values, beliefs, and principles of American constitutional democracy	0.85	2
202. Science	(16) Understands the scientific enterprise	0.85	2
203. Economics	(6) Understands the roles government plays in the United States economy	0.82	2*
204. U.S. History	(10) Understands how the industrial revolution, increasing immigration, the rapid expansion of slavery, and the westward movement changed American lives and led to regional tensions	0.80	2
205. Mathematics	(5) Understands and applies basic and advanced properties of the concepts of geometry	0.79	2
206. U.S. History	(25) Understands the causes and course of World War II, the character of the war at home and abroad, and its reshaping of the U.S. role in world affairs	0.75	2
207. U.S. History	(14) Understands the course and character of the Civil War and its effects on the American people	0.74	2*
208. World History	(40) Understands the search for peace and stability throughout the world in the 1920s and 1930s	0.69	2
209. World History	(41) Understands the causes and global consequences of World War II	0.69	2
210. U.S. History	(2) Understands cultural and ecological interactions among previously unconnected people resulting from early European exploration and colonization	0.67	2
211. Self-Regulation	(4) Demonstrates perseverance	0.66	2
212. Mathematics	(6) Understands and applies basic and advanced concepts of statistics and data analysis	0.64	2*
213. Self-Regulation	(5) Maintains a healthy self-concept	0.56	1
214. Health	(2) Knows environmental and external factors that affect individual and community health	0.55	5
215. U.S. History	(3) Understands why the Americas attracted Europeans, why they brought enslaved Africans to their colonies, and how Europeans struggled for control of North America and the Caribbean	0.52	2
216. U.S. History	(9) Understands the United States territorial expansion between 1801 and 1861, and how it affected relations with external powers and Native Americans	0.50	2*
217. Self-Regulation	(6) Restrains impulsivity	0.43	1
218. Health	(8) Knows essential concepts about the prevention and control of disease	0.43	1
219. Mathematics	(2) Understands and applies basic and advanced properties of the concepts of numbers	0.42	1
220. Mathematics	(3) Uses basic and advanced procedures while performing the processes of computation	0.34	1*
221. Science	(3) Understands essential ideas about the composition and structure of the universe and the Earth's place in it	0.34	1
222. U.S. History	(17) Understands massive immigration after 1870 and how new social patterns, conflicts, and ideas of national unity developed amid growing cultural diversity	0.29	1

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Subject	Standard	Percent	N
223. U.S. History	(22) Understands how the United States changed between the post-World War I years and the eve of the Great Depression	0.28	34
224. Science	(7) Understands how species depend on one another and on the environment for survival	0.28	1
225. Technology	(3) Understands relationships among science, technology, society, and the individual	0.24	1
226. Language Arts	(4) Gathers and uses information for research purposes	0.20	0**
227. Technology	(1) Knows the characteristics and uses of computer hardware and operating systems	0.19	1
228. Health	(9) Understands aspects of substance use and abuse	0.19	4
229. Health	(4) Knows how to maintain mental and emotional health	0.19	1
230. Technology	(2) Knows the characteristics and uses of computer software programs	0.19	1
231. U.S. History	(5) Understands how the values and institutions of European economic life took root in the colonies and how slavery reshaped European and African life in the Americas	0.18	1
232. U.S. History	(18) Understands the rise of the American labor movement and how political issues reflected social and economic changes	0.17	1
233. U.S. History	(28) Understands domestic policies in the post-World War II period	0.16	0**
234. U.S. History	(27) Understands how the Cold War and conflicts in Korea and Vietnam influenced domestic and international politics	0.16	0**
235. Health	(5) Knows essential concepts and practices concerning injury prevention and safety	0.13	0**
236. Mathematics	(1) Uses a variety of strategies in the problem-solving process	0.12	0**
237. U.S. History	(16) Understands how the rise of corporations, heavy industry, and mechanized farming transformed American society	0.12	0**
238. Geography	(16) Understands the changes that occur in the meaning, use, distribution, and importance of resources	0.09	0**
239. Behavioral Studies	(1) Understands that group and cultural influences contribute to human development, identity, and behavior *	0.06	0**
240. U.S. History	(13) Understands the causes of the Civil War	0.00	0
241. Geography	(1) Understands the characteristics and uses of maps, globes, and other geographic tools and technologies	0.00	0
242. Health	(6) Understands essential concepts about nutrition and diet	0.00	0
243. Health	(7) Knows how to maintain and promote personal health	0.00	0
244. Mathematics	(4) Understands and applies basic and advanced properties of the concepts of measurement	0.00	0
245. Mathematics	(9) Understands the general nature and uses of mathematics	0.00	0
246. Science	(1) Understands basic features of the Earth	0.00	0
247. U.S. History	(4) Understands how political, religious, and social institutions emerged in the North American colonies	0.00	0

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Subject	Standard	Percent	
248 U.S. History	(6) Understands the causes of the American Revolution, the ideas and interests involved in shaping the revolutionary movement, and reasons for the American victory	0.00	

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APPENDIX N
UNDER 45 YEARS OF AGE
(DEFINITELY NOT)

	Subject	Standard	Percent	N
1	Music	(4) Composes and arranges music within specified guidelines	32.23	100
2	Theatre	(4) Directs scenes and productions	31.14	100
3	Theatre	(3) Designs and produces informal and formal productions	30.08	96
4	Dance	(1) Identifies and demonstrates movement elements and skills in performing dance	23.71	74
5	Music	(3) Improvises melodies, variations, and accompaniments	23.32	74
6	Music	(5) Reads and notates music	18.76	59
7	Music	(1) Sings, alone and with others, a varied repertoire of music	17.30	55
8	Dance	(2) Understands choreographic principles, processes, and structures	16.75	53
9	Theatre	(1) Demonstrates competence in writing scripts	16.25	52
10	Music	(6) Knows and applies appropriate criteria to music and music performances	14.63	46
11	Dance	(4) Applies critical and creative thinking skills in dance	14.56	46
12	Music	(2) Performs on instruments, alone and with others, a varied repertoire of music	14.19	45
13	Theatre	(2) Uses acting skills	12.40	39
14	Foreign Language	(3) Presents information, concepts, and ideas to an audience of listeners or readers on a variety of topics	11.25	56*
15	World History	(16) Understands the development of agricultural societies and new states in tropical Africa and Oceania	10.96	37
16	World History	(19) Understands the maturation of an interregional system of communication, trade, and cultural exchange during a period of Chinese economic power and Islamic expansion	10.88	36
17	World History	(12) Understands the Imperial crises and their aftermath in various regions from 300 to 700 CE	10.48	73*
18	Foreign Language	(2) Comprehends and interprets written and spoken language on diverse topics from diverse media	10.46	87*
19	World History	(22) Understands the growth of states, towns, and trade in Sub-Saharan Africa between the 11th and 15th centuries	10.45	36
20	World History	(7) Understands technological and cultural innovation and change from 1000 to 600 BCE	10.15	24
21	World History	(14) Understands major developments in East Asia and Southeast Asia in the era of the Tang Dynasty from 600 to 900 CE	9.90	33
22	World History	(13) Understands the causes and consequences of the development of Islamic civilization between the 7th and 10th centuries	9.15	31
23	Physical Education	(1) Uses a variety of basic and advanced movement forms	8.91	30
24	World History	(20) Understands the redefinition of European society and culture from 1000 to 1300 CE	8.83	24
25	Science	(9) Understands the basic concepts of the evolution of species	8.52	29

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Subject	Standard	Percent	N
51 Visual Arts	(5) Understands the characteristics and meaning of one's own artwork and the artwork of others	4.32	14
52 World History	(1) Understands the biological and cultural processes that shaped the earliest human communities	4.25	15*
53 Civics	(20) Understands the roles of political parties, campaigns, elections, and associations and groups in American politics	4.19	14*
54 Behavioral Studies	(2) Understands various meanings of social group, general implications of group membership, and different ways that groups function	3.94	14*
55 World History	(28) Understands how large territorial empires dominated much of Eurasia between the 16th and 18th centuries	3.80	13
56 Geography	(2) Knows the location of places, geographic features, and patterns of the environment	3.82	7*
57 Visual Arts	(4) Understands the visual arts in relation to history and cultures	3.77	10
58 U.S. History	(8) Understands the institutions and practices of government created during the revolution and how these elements were revised between 1787 and 1815 to create the foundation of the American political system based on the U.S. Constitution and the Bill of Rights	3.74	13
59 U.S. History	(11) Understands the extension, restriction, and reorganization of political democracy after 1800	3.73	13*
60 Behavioral Studies	(3) Understands that interactions among learning, inheritance, and physical development affect human behavior	3.69	14*
61 U.S. History	(4) Understands how political, religious, and social institutions emerged in the North American colonies	3.69	13
62 Dance	(5) Understands dance in various cultures and historical periods	3.67	12
63 Geography	(12) Understands the patterns of human settlement and their causes	3.56	11*
64 Science	(4) Knows about the diversity and unity that characterize life	3.55	12
65 Physical Education	(2) Uses movement concepts and principles in the development of motor skills	3.55	12*
66 Civics	(6) Understands the advantages and disadvantages of federal, confederal, and unitary systems of government	3.54	12
67 Art Connections	(1) Understands connections among the various art forms and other disciplines	3.50	11
68 World History	(4) Understands how agrarian societies spread and new states emerged in the third and second millennia BCE	3.46	12
69 Civics	(13) Understands the character of American political and social conflict and factors that tend to prevent or lower its intensity	3.45	11
70 Geography	(18) Understands global development and environmental issues	3.27	11*
71 U.S. History	(9) Understands the United States territorial expansion between 1801 and 1861, and how it affected relations with external powers and Native Americans	3.17	12*
72 Civics	(22) Understands how the world is organized politically into nation-states, how nation-states interact with one another, and issues surrounding U.S. foreign policy	3.36	11*
73 World History	(30) Understands transformations in Asian societies in the era of European expansion	3.26	11
74 Language Arts	(3) Uses grammatical and mechanical conventions in written compositions	3.22	11

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Subject	Standard	Percent	N
26. World History	(18) Understands major global trends from 300 to 1000 CE	8.15	69*
27. Dance	(3) Understands dance as a way to create and communicate meaning	7.84	25
28. Theatre	(5) Understands how informal and formal theatre, film, television, and electronic media productions create and communicate meaning	7.69	25
29. Visual Arts	(1) Understands and applies media, techniques, and processes related to the visual arts	7.41	24
30. World History	(3) Understands the major characteristics of civilization and the development of civilizations in Mesopotamia, Egypt, and the Indus Valley	6.81	24
31. World History	(6) Understands major trends in Eurasia and Africa from 4000 to 1000 BCE	6.81	24
32. World History	(10) Understands how early agrarian civilizations arose in Mesoamerica	6.77	23
33. World History	(17) Understands the rise of centers of civilization in Mesoamerica and Andean South America in the first millennium CE	6.77	23
34. Geography	(13) Understands the forces of cooperation and conflict that shape the divisions of Earth's surface	6.30	78*
35. Dance	(6) Understands connections between dance and healthful living	6.21	20
36. World History	(21) Understands the rise of the Mongol empire and its consequences for Eurasian peoples from 1200 to 1350	6.16	20
37. World History	(8) Understands how Aegean civilization emerged and how interrelations developed among peoples of the eastern Mediterranean and Southwest Asia from 600 to 200 BCE	5.97	20
38. World History	(23) Understands patterns of crisis and recovery in Afro-Eurasia between 1300 and 1450	5.81	92*
39. World History	(24) Understands the expansion of states and civilizations in the Americas between 1000 and 1500	5.61	19
40. World History	(25) Understands major global trends from 1000 to 1500 CE	5.61	19
41. World History	(11) Understands major global trends from 1000 BCE to 300 CE	5.34	19
42. World History	(9) Understands how major religious and large-scale empires arose in the Mediterranean Basin, China, and India from 500 BCE to 300 CE	5.34	19
43. Theatre	(6) Understands the context in which theatre, film, television, and electronic media are performed today as well as in the past	5.18	17
44. Visual Arts	(3) Knows a range of subject matter, symbols, and potential ideas in the visual arts	5.09	16
45. Civics	(27) Understands how certain character traits enhance citizens' ability to fulfill personal and civic responsibilities	4.90	15
46. Foreign Language	(1) Uses the target language to engage in conversations, express feelings and emotions, and exchange opinions and information	4.89	18*
47. World History	(15) Understands the political, social, and cultural redefinitions in Europe from 500 to 1000 CE	4.59	16
48. Geography	(14) Understands how human actions modify the physical environment	4.44	14*
49. Physical Education	(3) Understands the benefits and costs associated with participation in physical activity	4.38	15*
50. U.S. History	(1) Understands the characteristics of societies in the Americas, Western Europe, and Western Africa that increasingly interacted after 1450	4.36	15

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Subject	Standard	Percent	N
75 Visual Arts	(2) Knows how to use the structures (e.g., sensory qualities, organizational principles, expressive features) and functions of art	3.22	10
76 World History	(2) Understands the processes that contributed to the emergence of agricultural societies around the world	3.14	8
77 Foreign Language	(4) Demonstrates knowledge and understanding of traditional ideas and perspectives, institutions, professions, literary and artistic expressions, and other components of target culture	3.12	11*
78 U.S. History	(7) Understands the impact of the American Revolution on politics, economy, and society	3.07	10
79 Geography	(3) Understands the characteristics and uses of spatial organization of Earth's surface	3.04	9*
80 Geography	(11) Understands the patterns and networks of economic interdependence on Earth's surface	3.04	10*
81 Behavioral Studies	(4) Understands conflict, cooperation, and interdependence among individuals, groups, and institutions	2.99	14*
82 World History	(27) Understands how European society experienced political, economic, and cultural transformations in an age of global intercommunication between 1450 and 1750	2.91	10*
83 Civics	(14) Understands issues concerning the disparities between ideals and reality in American political and social life	2.86	10
84 Geography	(9) Understands the nature, distribution, and migration of human populations on Earth's surface	2.76	9*
85 Economics	(8) Understands basic concepts of United States fiscal policy and monetary policy	2.73	9
86 Thinking and Reasoning	(4) Understands and applies basic principles of hypothesis testing and scientific inquiry	2.71	9
87 Foreign Language	(5) Recognizes that different languages use different patterns to communicate and applies this knowledge to the native language	2.70	19
88 Self-Regulation	(6) Restrains impulsivity	2.63	9
89 U.S. History	(5) Understands how the values and institutions of European economic life took root in the colonies and how slavery reshaped European and African life in the Americas	2.54	9
90 Language Arts	(5) Demonstrates competence in the general skills and strategies of the reading process	2.53	5*
91 Science	(10) Understands basic concepts about the structure and properties of matter	2.43	8
92 Geography	(6) Understands that culture and experience influence people's perceptions of places and regions	2.38	8*
93 Geography	(5) Understands the concept of regions	2.37	7*
94 Economics	(10) Understands basic concepts about international economics	2.36	8
95 U.S. History	(14) Understands the course and character of the Civil War and its effects on the American people	2.34	8*
96 World History	(31) Understands major global trends from 1450 to 1770	2.32	8
97 Science	(16) Understands the scientific enterprise	2.31	8
98 Mathematics	(7) Understands and applies basic and advanced concepts of probability	2.12	8

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Subject	Standard	Percent	N
99 Science	(13) Knows the kinds of forces that exist between objects and within atoms	2.12	-
100 Mathematics	(5) Understands and applies basic and advanced properties of the concepts of geometry	2.10	-
101 Working with Others	(1) Contributes to the overall effort of a group	2.10	-
102 Economics	(4) Understands basic features of market structures and exchanges	2.04	**
103 U.S. History	(2) Understands cultural and ecological interactions among previously unconnected people resulting from early European exploration and colonization	2.02	-
104 Economics	(2) Understands characteristics of different economic systems, economic institutions, and economic incentives	1.98	**
105 Economics	(9) Understands how Gross Domestic Product and inflation and deflation provide indications of the state of the economy	1.95	**
106 Economics	(1) Understands that scarcity of productive resources requires choices that generate opportunity costs	1.94	6*
107 Life Work	(3) Manages money effectively	1.93	6
108 Geography	(17) Understands how geography is used to interpret the past	1.93	6
109 Civics	(15) Understands how the United States Constitution grants and distributes power and responsibilities to national and state government and how it seeks to prevent the abuse of power	1.89	7*
110 Working with Others	(4) Displays effective interpersonal communication skills	1.88	6
111 Self-Regulation	(3) Considers risks	1.88	6
112 Music	(7) Understands the relationship between music and history and culture	1.86	6
113 Geography	(16) Understands the changes that occur in the meaning, use, distribution, and importance of resources	1.84	6*
114 U.S. History	(19) Understands federal Indian policy and United States foreign policy after the Civil War	1.84	6*
115 Science	(12) Understands motion and the principles that explain it	1.82	6
116 U.S. History	(21) Understands the changing role of the United States in world affairs through World War I	1.81	6
117 Language Arts	(6) Demonstrates competence in general skills and strategies for reading a variety of literary texts	1.79	6*
118 Geography	(10) Understands the nature and complexity of Earth's cultural mosaics	1.76	6*
119 World History	(44) Understands the search for community, stability, and peace in an interdependent world	1.74	6
120 U.S. History	(6) Understands the causes of the American Revolution, the ideas and interests involved in shaping the revolutionary movement, and reasons for the American victory	1.71	6
121 World History	(32) Understands the causes and consequences of political revolutions in the late 18th and early 19th centuries	1.70	6
122 Language Arts	(8) Demonstrates competence in speaking and listening as tools for learning	1.69	6*

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Subject	Standard	Percent	N
123. World History	(5) Understands the political, social, and cultural consequences of population movements and militarization in Eurasia in the second millennium BCE	1.66	6
124. World History	(38) Understands reform, revolution, and social change in the world economy in the early century	1.65	6
125. Civics	(18) Understands the role and importance of law in the American constitutional system and issues regarding the judicial protection of individual rights	1.64	5*
126. Thinking and Reasoning	(1) Understands and applies the basic principles of presenting an argument	1.63	5
127. Thinking and Reasoning	(2) Understands and applies basic principles of logic and reasoning	1.63	5
128. Thinking and Reasoning	(3) Effectively uses mental processes that are based on identifying similarities and differences (compares, contrasts, classifies)	1.63	5
129. Physical Education	(4) Understands how to monitor and maintain a health-enhancing level of physical fitness	1.63	5*
130. Technology	(5) Understands the nature and operation of systems	1.61	5
131. Physical Education	(5) Understands the social and personal responsibility associated with participation in physical activity	1.60	6
132. U.S. History	(3) Understands why the Americas attracted Europeans, why they brought enslaved Africans to their colonies, and how Europeans struggled for control of North America and the Caribbean	1.59	5
133. Civics	(23) Understands the impact of significant political and nonpolitical developments on the United States and other nations	1.58	5
134. Thinking and Reasoning	(6) Applies decision-making techniques	1.58	5
135. Geography	(15) Understands how physical systems affect human systems	1.55	5*
136. Geography	(4) Understands the physical and human characteristics of place	1.55	5*
137. Economics	(3) Understands the concept of prices and the interaction of supply and demand in a market economy	1.55	5
138. Mathematics	(2) Understands and applies basic and advanced properties of the concepts of numbers	1.54	6
139. U.S. History	(29) Understands the struggle for racial and gender equality and for the extension of civil liberties	1.53	5
140. World History	(37) Understands major global trends from 1750 to 1914	1.53	5
141. U.S. History	(20) Understands how Progressives and others addressed problems of industrial capitalism, urbanization, and political corruption	1.52	5*
142. World History	(45) Understands major global trends since Word War II	1.48	6*
143. Civics	(24) Understands the meaning of citizenship in the United States, and knows the requirements for citizenship and naturalization	1.44	5
144. Civics	(19) Understands what is meant by "the public agenda," how it is set, and how it is influenced by public opinion and the media	1.40	5
145. World History	(29) Understands the economic, political, and cultural interrelations among peoples of Africa, Europe, and the Americas between 1500 and 1750	1.35	5
146. Self-Regulation	(5) Maintains a healthy self-concept	1.35	4

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Subject	Standard	Percent	N
147 Language Arts	(4) Gathers and uses information for research purposes	1.34	4
148 Civics	(28) Understands how participation in civic and political life can help citizens attain individual and public goals	1.33	4
149 Civics	(29) Understands the importance of political leadership, public service, and a knowledgeable citizenry in American constitutional democracy	1.33	4
150 Civics	(16) Understands the major responsibilities of the national government for domestic and foreign policy, and understands how government is financed through taxation	1.31	4
151 U.S. History	(27) Understands how the Cold War and conflicts in Korea and Vietnam influenced domestic and international politics	1.27	4
152 Historical Understanding	(1) Understands and knows how to analyze chronological relationships and patterns	1.27	4*
153 U.S. History	(13) Understands the causes of the Civil War	1.25	4
154 World History	(43) Understands how post-World War II reconstruction occurred, new international power relations took shape, and colonial empires broke up	1.23	5*
155 Civics	(17) Understands issues concerning the relationship between state and local governments and the national government and issues pertaining to representation at all three levels of government	1.23	4
156 Civics	(12) Understands the relationships among liberalism, republicanism, and American constitutional democracy	1.20	4
157 World History	(34) Understands how Eurasian societies were transformed in an era of global trade and the emergence of European power from 1750 to 1870	1.19	4
158 Science	(15) Understands the nature of scientific inquiry	1.17	4
159 U.S. History	(24) Understands how the New Deal addressed the Great Depression, transformed American federalism, and initiated the welfare state	1.17	4
160 Science	(14) Understands the nature of scientific knowledge	1.15	4
161 Historical Understanding	(2) Understands the historical perspective	1.14	4*
162 Technology	(4) Understands the nature of technological design	1.13	1
163 U.S. History	(10) Understands how the industrial revolution, increasing immigration, the rapid expansion of slavery, and the westward movement changed American lives and led to regional tensions	1.13	4
164 U.S. History	(12) Understands the sources and character of cultural, religious, and social reform movements in the antebellum period	1.12	4*
165 Language Arts	(7) Demonstrates competence in the general skills and strategies for reading a variety of informational texts	1.12	4*
166 Science	(3) Understands essential ideas about the composition and structure of the universe and the Earth's place in it	1.11	4
167 Life Work	(1) Makes effective use of basic tools	1.10	4
168 Civics	(10) Understands the roles of voluntarism and organized groups in American social and political life	1.09	4
169 Mathematics	(6) Understands and applies basic and advanced concepts of statistics and data analysis	1.09	4*

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Subject	Standard	Percent	N
170. Civics	(7) Understands alternative forms of representation and how they serve the purposes of constitutional government	1.09	3
171. Behavioral Studies	(1) Understands that group and cultural influences contribute to human development, identity, and behavior	1.08	4*
172. Life Work	(2) Uses various information sources, including those of a technical nature, to accomplish specific tasks	1.07	4
173. Life Work	(5) Makes general preparation for entering the work force	1.05	3
174. Economics	(7) Understands savings, investment, and interest rates	1.04	3
175. Health	(10) Understands the fundamental concepts of growth and development	1.04	4*
176. Mathematics	(1) Uses a variety of strategies in the problem-solving process	1.03	4
177. Life Work	(6) Makes effective use of basic life skills	1.01	3
178. U.S. History	(15) Understands how various reconstruction plans succeeded or failed	1.00	3
179. U.S. History	(17) Understands massive immigration after 1870 and how new social patterns, conflicts, and ideas of national unity developed amid growing cultural diversity	1.00	3
180. World History	(26) Understands how the transoceanic interlinking of all major regions of the world between 1450 and 1600 led to global transformations	0.98	3
181. Mathematics	(9) Understands the general nature and uses of mathematics	0.98	4
182. U.S. History	(18) Understands the rise of the American labor movement and how political issues reflected social and economic changes	0.98	3
183. Self-Regulation	(4) Demonstrates perseverance	0.97	3
184. Civics	(25) Understands issues regarding personal, political, and economic rights	0.95	3
185. Civics	(26) Understands issues regarding the proper scope and limits of rights and the relationships among personal, political, and economic rights	0.95	3
186. World History	(33) Understands the causes and consequences of the agricultural and industrial revolutions from 1700 to 1850	0.93	3
187. Mathematics	(4) Understands and applies basic and advanced properties of the concepts of measurement	0.93	3
188. U.S. History	(25) Understands the causes and course of World War II, the character of the war at home and abroad, and its reshaping of the U.S. role in world affairs	0.91	3
189. World History	(39) Understands the causes and global consequences of World War I	0.90	3
190. World History	(42) Understands major global trends from 1900 to the end of World War II	0.90	3
191. Civics	(9) Understands the importance of Americans sharing and supporting certain values, beliefs, and principles of American constitutional democracy	0.90	3
192. Mathematics	(8) Understands and applies basic and advanced properties of functions and algebra	0.88	3*
193. U.S. History	(28) Understands domestic policies in the post-World War II period	0.86	3
194. World History	(36) Understands patterns of global change in the era of Western military and economic domination from 1850 to 1914	0.85	3
195. U.S. History	(16) Understands how the rise of corporations, heavy industry, and mechanized farming transformed American society	0.83	3
196. Life Work	(4) Pursues specific jobs	0.82	3

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Subject	Standard	Percent	N
197. Life Work	(7) Displays reliability and a basic work ethic	0.81	3
198. Life Work	(8) Operates effectively within organizations	0.81	3
199. World History	(40) Understands the search for peace and stability throughout the world in the 1920s and 1930s	0.80	3
200. Working with Others	(2) Uses conflict-resolution techniques	0.80	3
201. Economics	(6) Understands the roles government plays in the United States economy	0.78	3*
202. World History	(46) Understands long-term changes and recurring patterns in world history	0.73	3*
203. World History	(41) Understands the causes and global consequences of World War II	0.73	3
204. Civics	(8) Understands the central ideas of American constitutional government and how this form of government has shaped the character of American society	0.72	2
205. U.S. History	(26) Understands the economic boom and social transformation of post-World War II United States	0.72	2
206. Language Arts	(2) Demonstrates competence in the stylistic and rhetorical aspects of writing	0.72	2
207. Civics	(3) Understands the sources, purposes, and functions of law and the importance of the rule of law for the protection of individual rights and the common good	0.71	2
208. Health	(7) Knows how to maintain and promote personal health	0.70	3
209. U.S. History	(2) Understands the causes of the Great Depression and how it affected American society	0.70	7
210. U.S. History	(22) Understands how the United States changed between the post-World War I years and the eve of the Great Depression	0.70	25
211. Technology	(3) Understands relationships among science, technology, society, and the individual	0.70	2
212. Health	(1) Knows the availability and effective use of health services, products, and information	0.67	2
213. Health	(3) Understands the relationship of family health to individual health	0.66	2
214. Civics	(2) Understands the essential characteristics of limited and unlimited governments	0.63	2
215. World History	(35) Understands patterns of nationalism, state-building, and social reform in Europe and the Americas from 1830 to 1914	0.62	2
216. Language Arts	(1) Demonstrates competence in the general skills and strategies of the writing process	0.53	2*
217. Civics	(4) Understands the concept of a constitution, the various purposes that constitutions serve, and the conditions that contribute to the establishment and maintenance of constitutional government	0.53	2
218. Geography	(7) Knows the physical processes that shape patterns on Earth's surface	0.53	2*
219. Civics	(5) Understands the major characteristics of systems of shared powers and of parliamentary systems	0.49	2
220. Working with Others	(5) Demonstrates leadership skills	0.46	2
221. Science	(2) Understands basic Earth processes	0.45	2*
222. Economics	(5) Understands unemployment, income, and income distribution in a market economy	0.44	2*

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Subject	Standard	Percent	N
223. Geography	(8) Understands the characteristics of ecosystems on Earth's surface	0.44	1*
224. Thinking and Reasoning	(5) Applies basic trouble-shooting and problem-solving techniques	0.42	1
225. Self-Regulation	(2) Performs self-appraisal	0.41	1
226. U.S. History	(31) Understands economic, social, and cultural developments in the contemporary United States	0.39	1
227. Health	(4) Knows how to maintain mental and emotional health	0.38	1
228. Science	(7) Understands how species depend on one another and on the environment for survival	0.37	1
229. Civics	(21) Understands the formation and implementation of public policy	0.37	1
230. Science	(6) Knows the general structure and functions of cells in organisms	0.31	1
231. Civics	(11) Understands the role of diversity in American life and the importance of shared values, political beliefs, and civic beliefs in an increasingly diverse American society	0.27	1
232. Civics	(1) Understands ideas about civic life, politics, and government	0.26	1
233. Mathematics	(3) Uses basic and advanced procedures while performing the processes of computation	0.24	1*
234. U.S. History	(30) Understands developments in foreign and domestic policies between the Nixon and Clinton presidencies	0.23	1
235. Science	(11) Understands energy types, sources, and conversions, and their relationship to heat and temperature	0.21	1
236. Science	(1) Understands basic features of the Earth	0.21	1
237. Health	(6) Understands essential concepts about nutrition and diet	0.20	1
238. Health	(2) Knows environmental and external factors that affect individual and community health	0.20	1
239. Technology	(2) Knows the characteristics and uses of computer software programs	0.16	1
240. Working with Others	(3) Works well with diverse individuals and in diverse situations	0.13	0**
241. Geography	(1) Understands the characteristics and uses of maps, globes, and other geographic tools and technologies	0.00	0
242. Health	(5) Knows essential concepts and practices concerning injury prevention and safety	0.00	0
243. Health	(8) Knows essential concepts about the prevention and control of disease	0.00	0
244. Health	(9) Understands aspects of substance use and abuse	0.00	0
245. Self-Regulation	(1) Sets and manages goals	0.00	0
246. Science	(5) Understands the genetic basis for the transfer of biological characteristics from one generation to the next	0.00	0
247. Science	(8) Understands the cycling of matter and flow of energy through the living environment	0.00	0
248. Technology	(1) Knows the characteristics and uses of computer hardware and operating systems	0.00	0

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APPENDIX O
50K OR MORE INCOME
(DEFINITELY NOT)

	Subject Area	Standard	Percent	N
1	Music	(4) Composes and arranges music within specified guidelines	38.59	72
2	Theatre	(4) Directs scenes and productions	35.89	67
3	Theatre	(3) Designs and produces informal and formal productions	33.75	63
4	Music	(3) Improvises melodies, variations, and accompaniments	31.11	57
5	Theatre	(1) Demonstrates competence in writing scripts	26.26	49
6	Dance	(1) Identifies and demonstrates movement elements and skills in performing dance	24.81	46
7	Dance	(2) Understands choreographic principles, processes, and structures	22.33	42
8	Music	(5) Reads and notates music	20.69	39
9	Music	(1) Sings, alone and with others, a varied repertoire of music	20.65	46
10	Dance	(4) Applies critical and creative thinking skills in dance	20.44	38
11	Music	(6) Knows and applies appropriate criteria to music and music performances	20.34	38
12	Theatre	(2) Uses acting skills	17.41	33
13	Foreign Language	(3) Presents information, concepts, and ideas to an audience of listeners or readers on a variety of topics	16.11	32*
14	Music	(2) Performs on instruments, alone and with others, a varied repertoire of music	14.78	28
15	World History	(20) Understands the redefinition of European society and culture from 1000 to 1300 CE	11.54	19
16	World History	(22) Understands the growth of states, towns, and trade in Sub-Saharan Africa between the 11th and 15th centuries	11.32	21
17	World History	(19) Understands the maturation of an interregional system of communication, trade, and cultural exchange during a period of Chinese economic power and Islamic expansion	11.05	21
18	World History	(16) Understands the development of agricultural societies and new states in tropical Africa and Oceania	10.77	20
19	World History	(12) Understands the Imperial crises and their aftermath in various regions from 300 to 700 CE	10.54	21*
20	Dance	(3) Understands dance as a way to create and communicate meaning	9.86	19
21	Physical Education	(1) Uses a variety of basic and advanced movement forms	9.62	19
22	Science	(9) Understands the basic concepts of the evolution of species	9.06	18
23	World History	(7) Understands technological and cultural innovation and change from 1000 to 600 BCE	8.84	23*
24	Foreign Language	(2) Comprehends and interprets written and spoken language on diverse topics from diverse media	8.52	17*
25	World History	(21) Understands the rise of the Mongol empire and its consequences for Eurasian peoples from 1200 to 1350	8.06	16

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Subject Area	Standard	Percent	N
26. Visual Arts	(1) Understands and applies media, techniques, and processes related to the visual arts	7.99	15
27. World History	(23) Understands patterns of crisis and recovery in Afro-Eurasia between 1300 and 1450	7.66	15*
28. World History	(10) Understands how early agrarian civilizations arose in Mesoamerica	7.02	14
29. World History	(17) Understands the rise of centers of civilization in Mesoamerica and Andean South America in the first millennium CE	7.02	14
30. World History	(14) Understands major developments in East Asia and Southeast Asia in the era of the Tang Dynasty from 600 to 900 CE	6.84	13
31. Dance	(5) Understands dance in various cultures and historical periods	6.71	13
32. World History	(18) Understands major global trends from 300 to 1000 CE	6.57	13*
33. Foreign Language	(1) Uses the target language to engage in conversations, express feelings and emotions, and exchange opinions and information	6.28	13*
34. World History	(25) Understands major global trends from 1000 to 1500 CE	6.12	12
35. World History	(24) Understands the expansion of states and civilizations in the Americas between 1000 and 1500	6.12	12
36. Dance	(6) Understands connections between dance and healthful living	5.98	11
37. World History	(13) Understands the causes and consequences of the development of Islamic civilization between the 7th and 10th centuries	5.83	11
38. World History	(9) Understands how major religious and large-scale empires arose in the Mediterranean Basin, China, and India from 500 BCE to 300 CE	5.79	12
39. World History	(11) Understands major global trends from 1000 BCE to 300 CE	5.79	12
40. Physical Education	(3) Understands the benefits and costs associated with participation in physical activity	4.70	10*
41. World History	(28) Understands how large territorial empires dominated much of Eurasia between the 16th and 18th centuries	4.63	9
42. U.S. History	(8) Understands the institutions and practices of government created during the revolution and how these elements were revised between 1787 and 1815 to create the foundation of the American political system based on the U.S. Constitution and the Bill of Rights	4.58	9
43. World History	(1) Understands the biological and cultural processes that shaped the earliest human communities	4.45	9*
44. World History	(30) Understands transformations in Asian societies in the era of European expansion	4.30	8
45. Mathematics	(8) Understands and applies basic and advanced properties of functions and algebra	4.01	8*
46. Physical Education	(5) Understands the social and personal responsibility associated with participation in physical activity	3.99	8
47. Physical Education	(2) Uses movement concepts and principles in the development of motor skills	3.89	8*
48. World History	(32) Understands the causes and consequences of political revolutions in the late 18th and early 19th centuries	3.89	8
49. World History	(31) Understands major global trends from 1450 to 1770	3.86	8

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	Subject Area	Standard	Percent	N
50.	World History	(44) Understands the search for community, stability, and peace in an interdependent world	3.86	8
51.	World History	(3) Understands the major characteristics of civilization and the development of civilizations in Mesopotamia, Egypt, and the Indus Valley	3.83	8
52.	World History	(6) Understands major trends in Eurasia and Africa from 4000 to 1000 BCE	3.83	8
53.	World History	(15) Understands the political, social, and cultural redefinitions in Europe from 500 to 1000 CE	3.78	7
54.	Foreign Language	(4) Demonstrates knowledge and understanding of traditional ideas and perspectives, institutions, professions, literary and artistic expressions, and other components of target culture	3.71	8*
55.	Science	(10) Understands basic concepts about the structure and properties of matter	3.65	7
56.	World History	(34) Understands how Eurasian societies were transformed in an era of global trade and the emergence of European power from 1750 to 1870	3.61	7
57.	Behavioral Studies	(4) Understands conflict, cooperation, and interdependence among individuals, groups, and institutions	3.53	7*
58.	Behavioral Studies	(3) Understands that interactions among learning, inheritance, and physical development affect human behavior	3.37	6*
59.	World History	(29) Understands the economic, political, and cultural interrelations among peoples of Africa, Europe, and the Americas between 1500 and 1750	3.18	6
60.	U.S. History	(9) Understands the United States territorial expansion between 1801 and 1861, and how it affected relations with external powers and Native Americans	3.15	7*
61.	World History	(43) Understands how post-World War II reconstruction occurred, new international power relations took shape, and colonial empires broke up	3.13	7*
62.	World History	(2) Understands the processes that contributed to the emergence of agricultural societies around the world	3.12	6
63.	Civics	(19) Understands what is meant by "the public agenda," how it is set, and how it is influenced by public opinion and the media	3.08	5
64.	Science	(12) Understands motion and the principles that explain it	3.00	6
65.	Geography	(2) Knows the location of places, geographic features, and patterns of the environment	2.98	6*
66.	Science	(16) Understands the scientific enterprise	2.98	6
67.	Health	(10) Understands the fundamental concepts of growth and development	2.95	6*
68.	Economics	(10) Understands basic concepts about international economics	2.91	5
69.	World History	(33) Understands the causes and consequences of the agricultural and industrial revolutions from 1700 to 1850	2.88	6
70.	Mathematics	(7) Understands and applies basic and advanced concepts of probability	2.82	6
71.	U.S. History	(7) Understands the impact of the American Revolution on politics, economy, and society	2.78	6
72.	World History	(5) Understands the political, social, and cultural consequences of population movements and militarization in Eurasia in the second millennium BCE	2.77	6
73.	Economics	(8) Understands basic concepts of United States fiscal policy and monetary policy	2.74	4
74.	Civics	(27) Understands how certain character traits enhance citizens' ability to fulfill personal and civic responsibilities	2.70	4

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Subject Area	Standard	Percent	N
75 Visual Arts	(5) Understands the characteristics and merits of one's own artwork and the artwork of others	2.68	5
76 Economics	(7) Understands savings, investment, and interest rates	2.68	4
77 Civics	(11) Understands the role of diversity in American life and the importance of shared values, political beliefs, and civic beliefs in an increasingly diverse American society	2.68	4
78 World History	(45) Understands major global trends since Word War II	2.66	6*
79 Theatre	(6) Understands the context in which theatre, film, television, and electronic media are performed today as well as in the past	2.64	5
80 U.S. History	(1) Understands the characteristics of societies in the Americas, Western Europe, and Western Africa that increasingly interacted after 1450	2.64	5
81 Art Connections	(1) Understands connections among the various art forms and other disciplines	2.58	5
82 Civics	(29) Understands the importance of political leadership, public service, and a knowledgeable citizenry in American constitutional democracy	2.56	4
83 Civics	(28) Understands how participation in civic and political life can help citizens attain individual and public goals	2.56	4
84 Science	(4) Knows about the diversity and unity that characterize life	2.56	5
85 World History	(8) Understands how Aegean civilization emerged and how interrelations developed among peoples of the eastern Mediterranean and Southwest Asia from 600 to 200 BCE	2.49	5
86 World History	(27) Understands how European society experienced political, economic, and cultural transformations in an age of global intercommunication between 1450 and 1750	2.48	5*
87 World History	(37) Understands major global trends from 1750 to 1914	2.48	5
88 Behavioral Studies	(2) Understands various meanings of social group, general implications of group membership, and different ways that groups function	2.47	4*
89 Theatre	(5) Understands how informal and formal theatre, film, television, and electronic media productions create and communicate meaning	2.46	5
90 Foreign Language	(5) Recognizes that different languages use different patterns to communicate and applies this knowledge to the native language	2.43	5
91 Life Work	(6) Makes effective use of basic life skills	2.42	4
92 Health	(1) Knows the availability and effective use of health services, products, and information	2.41	5
93 Geography	(3) Understands the characteristics and uses of spatial organization of Earth's surface	2.38	4*
94 Geography	(13) Understands the forces of cooperation and conflict that shape the divisions of Earth's surface	2.31	4*
95 Geography	(14) Understands how human actions modify the physical environment	2.28	4*
96 Civics	(14) Understands issues concerning the disparities between ideals and reality in American political and social life	2.22	4
97 Geography	(11) Understands the patterns and networks of economic interdependence on Earth's surface	2.11	4*
98 Science	(13) Knows the kinds of forces that exist between objects and within atoms	2.09	4

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Subject Area	Standard	Percent	N
99 Health	(3) Understands the relationship of family health to individual health	2.00	4
100 World History	(38) Understands reform, revolution, and social change in the world economy in the early century	1.99	4
101 Life Work	(1) Makes effective use of basic tools	1.99	3
102 Working with Others	(2) Uses conflict-resolution techniques	1.98	3
103 Civics	(23) Understands the impact of significant political and nonpolitical developments on the United States and other nations	1.96	3
104 World History	(36) Understands patterns of global change in the era of Western military and economic domination from 1850 to 1914	1.95	4
105 Language Arts	(5) Demonstrates competence in the general skills and strategies of the reading process	1.94	2*
106 World History	(42) Understands major global trends from 1900 to the end of World War II	1.94	4
107 World History	(39) Understands the causes and global consequences of World War I	1.94	4
108 World History	(4) Understands how agrarian societies spread and new states emerged in the third and second millennia BCE	1.91	4
109 Geography	(5) Understands the concept of regions	1.91	4*
110 Visual Arts	(3) Knows a range of subject matter, symbols, and potential ideas in the visual arts	1.91	4
111 World History	(35) Understands patterns of nationalism, state-building, and social reform in Europe and the Americas from 1830 to 1914	1.89	4
112 Geography	(12) Understands the patterns of human settlement and their causes	1.83	3*
113 World History	(40) Understands the search for peace and stability throughout the world in the 1920s and 1930s	1.83	4
114 Geography	(10) Understands the nature and complexity of Earth's cultural mosaics	1.81	4*
115 Science	(3) Understands essential ideas about the composition and structure of the universe and the Earth's place in it	1.74	4
116 Economics	(9) Understands how Gross Domestic Product and inflation and deflation provide indications of the state of the economy	1.73	3*
117 U.S. History	(11) Understands the extension, restriction, and reorganization of political democracy after 1800	1.71	4*
118 Life Work	(7) Displays reliability and a basic work ethic	1.71	3
119 Life Work	(8) Operates effectively within organizations	1.71	3
120 Science	(11) Understands energy types, sources, and conversions, and their relationship to heat and temperature	1.70	3
121 Visual Arts	(2) Knows how to use the structures (e.g., sensory qualities, organizational principles, expressive features) and functions of art	1.70	3
122 Geography	(9) Understands the nature, distribution, and migration of human populations on Earth's surface	1.66	3*
123 Language Arts	(8) Demonstrates competence in speaking and listening as tools for learning	1.57	3*
124 U.S. History	(12) Understands the sources and character of cultural, religious, and social reform movements in the antebellum period	1.52	3*

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Subject Area	Standard	Percent	N
125. World History	(41) Understands the causes and global consequences of World War II	1.50	3
126. U.S. History	(14) Understands the course and character of the Civil War and its effects on the American people	1.49	3*
127. Civics	(22) Understands how the world is organized politically into nation-states, how nation-states interact with one another, and issues surrounding U.S. foreign policy	1.48	2*
128. Thinking and Reasoning	(4) Understands and applies basic principles of hypothesis testing and scientific inquiry	1.44	2
129. Thinking and Reasoning	(2) Understands and applies basic principles of logic and reasoning	1.39	2
130. Historical Understanding	(2) Understands the historical perspective	1.38	3*
131. Geography	(6) Understands that culture and experience influence people's perceptions of places and regions	1.32	3*
132. Science	(15) Understands the nature of scientific inquiry	1.32	3
133. Civics	(12) Understands the relationships among liberalism, republicanism, and American constitutional democracy	1.30	2
134. Life Work	(3) Manages money effectively	1.30	2
135. World History	(46) Understands long-term changes and recurring patterns in world history	1.29	3*
136. World History	(26) Understands how the transoceanic interlinking of all major regions of the world between 1450 and 1600 led to global transformations	1.27	3
137. Technology	(4) Understands the nature of technological design	1.25	4
138. Geography	(18) Understands global development and environmental issues	1.23	3*
139. Civics	(18) Understands the role and importance of law in the American constitutional system and issues regarding the judicial protection of individual rights	1.23	2*
140. Economics	(2) Understands characteristics of different economic systems, economic institutions, and economic incentives	1.22	2*
141. Civics	(20) Understands the roles of political parties, campaigns, elections, and associations and groups in American politics	1.21	2*
142. Economics	(5) Understands unemployment, income, and income distribution in a market economy	1.20	2*
143. Mathematics	(5) Understands and applies basic and advanced properties of the concepts of geometry	1.20	2
144. Working with Others	(1) Contributes to the overall effort of a group	1.18	2
145. Civics	(6) Understands the advantages and disadvantages of federal, confederal, and unitary systems of government	1.17	2
146. Physical Education	(4) Understands how to monitor and maintain a health-enhancing level of physical fitness	1.12	2*
147. Music	(7) Understands the relationship between music and history and culture	1.10	18
148. Technology	(5) Understands the nature and operation of systems	1.09	2
149. Behavioral Studies	(1) Understands that group and cultural influences contribute to human development, identity, and behavior	1.08	2*

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Subject Area	Standard	Percent	N
150 Self-Regulations	(6) Restrains impulsivity	1.05	2
151 Self-Regulations	(5) Maintains a healthy self-concept	1.05	2
152 Geography	(17) Understands how geography is used to interpret the past	1.04	2
153 Thinking and Reasoning	(6) Applies decision-making techniques	1.04	2
154 Historical Understanding	(1) Understands and knows how to analyze chronological relationships and patterns	1.03	2*
155 Visual Arts	(4) Understands the visual arts in relation to history and cultures	1.01	2
156 Civics	(17) Understands issues concerning the relationship between state and local governments and the national government and issues pertaining to representation at all three levels of government	0.99	2
157 Economics	(4) Understands basic features of market structures and exchanges	0.97	2*
158 Life Work	(5) Makes general preparation for entering the work force	0.93	1
159 Life Work	(4) Pursues specific jobs	0.92	1
160 Working with Others	(3) Works well with diverse individuals and in diverse situations	0.88	1
161 Geography	(8) Understands the characteristics of ecosystems on Earth's surface	0.85	2*
162 Civics	(10) Understands the roles of voluntarism and organized groups in American social and political life	0.83	1
163 Health	(4) Knows how to maintain mental and emotional health	0.82	2
164 Geography	(15) Understands how physical systems affect human systems	0.80	2*
165 Geography	(4) Understands the physical and human characteristics of place	0.79	1*
166 Civics	(7) Understands alternative forms of representation and how they serve the purposes of constitutional government	0.79	1
167 Science	(14) Understands the nature of scientific knowledge	0.78	1
168 Economics	(1) Understands that scarcity of productive resources requires choices that generate opportunity costs	0.78	1*
169 Self-Regulations	(3) Considers risks	0.75	1
170 Working with Others	(5) Demonstrates leadership skills	0.74	1
171 U.S. History	(2) Understands cultural and ecological interactions among previously unconnected people resulting from early European exploration and colonization	0.72	1
172 Civics	(13) Understands the character of American political and social conflict and factors that tend to prevent or lower its intensity	0.69	1
173 Civics	(21) Understands the formation and implementation of public policy	0.68	1
174 Civics	(26) Understands issues regarding the proper scope and limits of rights and the relationships among personal, political, and economic rights	0.68	1
175 Civics	(25) Understands issues regarding personal, political, and economic rights	0.68	1
176 Self-Regulations	(4) Demonstrates perseverance	0.67	1

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Subject Area	Standard	Percent	N
177. Civics	(16) Understands the major responsibilities of the national government for domestic and foreign policy, and understands how government is financed through taxation	0.67	1
178. U.S. History	(19) Understands federal Indian policy and United States foreign policy after the Civil War	0.67	2*
179. Civics	(24) Understands the meaning of citizenship in the United States, and knows the requirements for citizenship and naturalization	0.67	1
180. Thinking and Reasoning	(5) Applies basic trouble-shooting and problem-solving techniques	0.66	1
181. Science	(2) Understands basic Earth processes	0.63	2*
182. Thinking and Reasoning	(3) Effectively uses mental processes that are based on identifying similarities and differences (compares, contrasts, classifies)	0.62	1
183. Technology	(3) Understands relationships among science, technology, society, and the individual	0.61	1
184. U.S. History	(3) Understands why the Americas attracted Europeans, why they brought enslaved Africans to their colonies, and how Europeans struggled for control of North America and the Caribbean	0.61	1
185. Economics	(3) Understands the concept of prices and the interaction of supply and demand in a market economy	0.60	1
186. Language Arts	(6) Demonstrates competence in general skills and strategies for reading a variety of literary texts	0.59	1*
187. Life Work	(2) Uses various information sources, including those of a technical nature, to accomplish specific tasks	0.58	1
188. U.S. History	(10) Understands how the industrial revolution, increasing immigration, the rapid expansion of slavery, and the westward movement changed American lives and led to regional tensions	0.54	1
189. U.S. History	(4) Understands how political, religious, and social institutions emerged in the North American colonies	0.53	1
190. Health	(2) Knows environmental and external factors that affect individual and community health	0.50	1
191. Civics	(15) Understands how the United States Constitution grants and distributes power and responsibilities to national and state government and how it seeks to prevent the abuse of power	0.49	1*
192. Geography	(7) Knows the physical processes that shape patterns on Earth's surface	0.47	1*
193. U.S. History	(29) Understands the struggle for racial and gender equality and for the extension of civil liberties	0.44	1
194. Mathematics	(2) Understands and applies basic and advanced properties of the concepts of numbers	0.44	3
195. U.S. History	(17) Understands massive immigration after 1870 and how new social patterns, conflicts, and ideas of national unity developed amid growing cultural diversity	0.43	1
196. U.S. History	(18) Understands the rise of the American labor movement and how political issues reflected social and economic changes	0.43	1
197. U.S. History	(31) Understands economic, social, and cultural developments in the contemporary United States	0.43	1
198. U.S. History	(27) Understands how the Cold War and conflicts in Korea and Vietnam influenced domestic and international politics	0.43	1

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Subject Area	Standard	Percent	N
199. U.S. History	(24) Understands how the New Deal addressed the Great Depression, transformed American federalism, and initiated the welfare state	0.42	4
200. Self-Regulations	(1) Sets and manages goals	0.38	1
201. U.S. History	(5) Understands how the values and institutions of European economic life took root in the colonies and how slavery reshaped European and African life in the Americas	0.36	1
202. U.S. History	(16) Understands how the rise of corporations, heavy industry, and mechanized farming transformed American society	0.35	1
203. Geography	(16) Understands the changes that occur in the meaning, use, distribution, and importance of resources	0.32	1*
204. Self-Regulations	(2) Performs self-appraisal	0.31	0**
205. Working with Others	(4) Displays effective interpersonal communication skills	0.31	0**
206. Thinking and Reasoning	(1) Understands and applies the basic principles of presenting an argument	0.31	0**
207. Civics	(4) Understands the concept of a constitution, the various purposes that constitutions serve, and the conditions that contribute to the establishment and maintenance of constitutional government	0.30	0**
208. Economics	(6) Understands the roles government plays in the United States economy	0.30	0**
209. Civics	(3) Understands the sources, purposes, and functions of law and the importance of the rule of law for the protection of individual rights and the common good	0.30	0**
210. Civics	(5) Understands the major characteristics of systems of shared powers and of parliamentary systems	0.30	0**
211. Language Arts	(4) Gathers and uses information for research purposes	0.30	0**
212. Civics	(9) Understands the importance of Americans sharing and supporting certain values, beliefs, and principles of American constitutional democracy	0.30	0**
213. Language Arts	(3) Uses grammatical and mechanical conventions in written compositions	0.30	0**
214. Language Arts	(2) Demonstrates competence in the stylistic and rhetorical aspects of writing	0.30	0**
215. Health	(9) Understands aspects of substance use and abuse	0.30	1
216. Health	(8) Knows essential concepts about the prevention and control of disease	0.30	1
217. Mathematics	(6) Understands and applies basic and advanced concepts of statistics and data analysis	0.29	1*
218. Language Arts	(1) Demonstrates competence in the general skills and strategies of the writing process	0.28	1*
219. U.S. History	(21) Understands the changing role of the United States in world affairs through World War I	0.26	1
220. U.S. History	(28) Understands domestic policies in the post-World War II period	0.25	1
221. U.S. History	(20) Understands how Progressives and others addressed problems of industrial capitalism, urbanization, and political corruption	0.24	1*
222. Mathematics	(3) Uses basic and advanced procedures while performing the processes of computation	0.20	0**
223. Health	(7) Knows how to maintain and promote personal health	0.19	0**

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Subject Area	Standard	Percent	N
224. U.S. History	(22) Understands how the United States changed between the post-World War I years and the eve of the Great Depression	0.18	0**
225. Science	(6) Knows the general structure and functions of cells in organisms	0.18	0 *
226. Science	(7) Understands how species depend on one another and on the environment for survival	0.18	0**
227. U.S. History	(6) Understands the causes of the American Revolution, the ideas and interests involved in shaping the revolutionary movement, and reasons for the American victory	0.18	0**
228. U.S. History	(26) Understands the economic boom and social transformation of post-World War II United States	0.18	0**
229. Language Arts	(7) Demonstrates competence in the general skills and strategies for reading a variety of informational texts	0.15	0**
230. U.S. History	(23) Understands the causes of the Great Depression and how it affected American society	0.00	0
231. U.S. History	(25) Understands the causes and course of World War II, the character of the war at home and abroad, and its reshaping of the U.S. role in world affairs	0.00	0
232. U.S. History	(30) Understands developments in foreign and domestic policies between the Nixon and Clinton presidencies	0.00	0
233. U.S. History	(15) Understands how various reconstruction plans succeeded or failed	0.00	0
234. U.S. History	(13) Understands the causes of the Civil War	0.00	0
235. Technology	(2) Knows the characteristics and uses of computer software programs	0.00	0
236. Technology	(1) Knows the characteristics and uses of computer hardware and operating systems	0.00	0
237. Science	(8) Understands the cycling of matter and flow of energy through the living environment	0.00	0
238. Science	(5) Understands the genetic basis for the transfer of biological characteristics from one generation to the next	0.00	0
239. Science	(1) Understands basic features of the Earth	0.00	0
240. Mathematics	(9) Understands the general nature and uses of mathematics	0.00	0
241. Mathematics	(1) Uses a variety of strategies in the problem-solving process	0.00	0
242. Civics	(1) Understands ideas about civic life, politics, and government	0.00	0
243. Civics	(2) Understands the essential characteristics of limited and unlimited governments	0.00	0
244. Civics	(8) Understands the central ideas of American constitutional government and how this form of government has shaped the character of American society	0.00	0
245. Health	(6) Understands essential concepts about nutrition and diet	0.00	0
246. Health	(5) Knows essential concepts and practices concerning injury prevention and safety	0.00	0
247. Geography	(1) Understands the characteristics and uses of maps, globes, and other geographic tools and technologies	0.00	0
248. Mathematics	(4) Understands and applies basic and advanced properties of the concepts of measurement	0.00	0

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APPENDIX P
LESS THAN 50K INCOME
(DEFINITELY NOT)

	Subject Area	Standard	Percent	N
1	Theatre	(4) Directs scenes and productions	31.25	102
2	Music	(4) Composes and arranges music within specified guidelines	29.62	96
3	Theatre	(3) Designs and produces informal and formal productions	29.47	97
4	Music	(3) Improvises melodies, variations, and accompaniments	21.58	70
5	Music	(5) Reads and notates music	21.56	71
6	Dance	(1) Identifies and demonstrates movement elements and skills in performing dance	20.32	67
7	Music	(6) Knows and applies appropriate criteria to music and music performances	19.23	63
8	Dance	(2) Understands choreographic principles, processes, and structures	18.67	62
9	Theatre	(1) Demonstrates competence in writing scripts	17.23	57
10	World History	(19) Understands the maturation of an interregional system of communication, trade, and cultural exchange during a period of Chinese economic power and Islamic expansion	15.79	62
11	Dance	(4) Applies critical and creative thinking skills in dance	15.36	51
12	Theatre	(2) Uses acting skills	13.91	46
13	Music	(2) Performs on instruments, alone and with others, a varied repertoire of music	13.72	46
14	Theatre	(5) Understands how informal and formal theatre, film, television, and electronic media productions create and communicate meaning	12.92	43
15	World History	(16) Understands the development of agricultural societies and new states in tropical Africa and Oceania	12.64	50
16	Music	(1) Sings, alone and with others, a varied repertoire of music	12.20	40
17	World History	(14) Understands major developments in East Asia and Southeast Asia in the era of the Tang Dynasty from 600 to 900 CE	12.06	48
18	World History	(22) Understands the growth of states, towns, and trade in Sub-Saharan Africa between the 11th and 15th centuries	12.03	48
19	World History	(12) Understands the imperial crises and their aftermath in various regions from 300 to 700 CE	11.56	46*
20	World History	(13) Understands the causes and consequences of the development of Islamic civilization between the 7th and 10th centuries	11.39	45
21	World History	(20) Understands the redefinition of European society and culture from 1000 to 1300 CE	11.14	37
22	Dance	(3) Understands dance as a way to create and communicate meaning	10.79	35
23	World History	(7) Understands technological and cultural innovation and change from 1000 to 600 BCE	10.58	43*
24	World History	(21) Understands the rise of the Mongol empire and its consequences for Eurasian peoples from 1200 to 1350	10.30	40
25	World History	(18) Understands major global trends from 300 to 1000 CE	9.93	40*
26	Dance	(6) Understands connections between dance and healthful living	9.86	32

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Subject Area	Standard	Percent	N
27. Visual Arts	(1) Understands and applies media, techniques, and processes related to the visual arts	9.32	31
28. Foreign Language	(3) Presents information, concepts, and ideas to an audience of listeners or readers on a variety of topics	9.30	38*
29. Foreign Language	(2) Comprehends and interprets written and spoken language on diverse topics from diverse media	9.20	37*
30. World History	(6) Understands major trends in Eurasia and Africa from 4000 to 1000 BCE	8.83	36
31. World History	(3) Understands the major characteristics of civilization and the development of civilizations in Mesopotamia, Egypt, and the Indus Valley	8.83	36
32. Theatre	(6) Understands the context in which theatre, film, television, and electronic media are performed today as well as in the past	8.15	28
33. Science	(9) Understands the basic concepts of the evolution of species	8.01	31
34. Visual Arts	(2) Knows how to use the structures (e.g., sensory qualities, organizational principles, expressive features) and functions of art	7.94	26
35. World History	(23) Understands patterns of crisis and recovery in Afro-Eurasia between 1300 and 1450	7.63	31*
36. World History	(15) Understands the political, social, and cultural redefinitions in Europe from 500 to 1000 CE	7.55	30
37. Physical Education	(1) Uses a variety of basic and advanced movement forms	7.54	20
38. Dance	(5) Understands dance in various cultures and historical periods	7.43	25
39. Geography	(13) Understands the forces of cooperation and conflict that shape the divisions of Earth's surface	7.42	25*
40. World History	(25) Understands major global trends from 1000 to 1500 CE	7.32	30
41. World History	(24) Understands the expansion of states and civilizations in the Americas between 1000 and 1500	7.32	30
42. World History	(8) Understands how Aegean civilization emerged and how interrelations developed among peoples of the eastern Mediterranean and Southwest Asia from 600 to 200 BCE	7.06	28
43. Visual Arts	(4) Understands the visual arts in relation to history and cultures	6.86	23
44. World History	(17) Understands the rise of centers of civilization in Mesoamerica and Andean South America in the first millennium CE	6.27	26
45. World History	(10) Understands how early agrarian civilizations arose in Mesoamerica	6.27	26
46. Visual Arts	(3) Knows a range of subject matter, symbols, and potential ideas in the visual arts	6.19	20
47. World History	(1) Understands the biological and cultural processes that shaped the earliest human communities	5.95	25*
48. Art Connections	(1) Understands connections among the various art forms and other disciplines	5.74	19
49. World History	(2) Understands the processes that contributed to the emergence of agricultural societies around the world	5.60	24
50. World History	(28) Understands how large territorial empires dominated much of Eurasia between the 16th and 18th centuries	5.58	22
51. World History	(9) Understands how major religious and large-scale empires arose in the Mediterranean Basin, China, and India from 500 BCE to 300 CE	5.52	23

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	Subject Area	Standard	Percent	N
52	World History	(11) Understands major global trends from 1000 BCE to 300 CE	5.52	23
53	Visual Arts	(5) Understands the characteristics and merits of one's own artwork and the artwork of others	5.45	18
54	Music	(7) Understands the relationship between music and history and culture	5.34	4
55	Civics	(27) Understands how certain character traits enhance citizens' ability to fulfill personal and civic responsibilities	5.15	20
56	World History	(5) Understands the political, social, and cultural consequences of population movements and militarization in Eurasia in the second millennium BCE	4.94	20
57	Geography	(14) Understands how human actions modify the physical environment	4.93	17*
58	Thinking and Reasoning	(4) Understands and applies basic principles of hypothesis testing and scientific inquiry	4.91	19
59	World History	(27) Understands how European society experienced political, economic, and cultural transformations in an age of global intercommunication between 1450 and 1750	4.85	20*
60	Foreign Language	(1) Uses the target language to engage in conversations, express feelings and emotions, and exchange opinions and information	4.60	19*
61	Civics	(6) Understands the advantages and disadvantages of federal, confederal, and unitary systems of government	4.43	18
62	Civics	(13) Understands the character of American political and social conflict and factors that tend to prevent or lower its intensity	4.38	17
63	World History	(4) Understands how agrarian societies spread and new states emerged in the third and second millennia BCE	4.31	18
64	Civics	(20) Understands the roles of political parties, campaigns, elections, and associations and groups in American politics	4.24	17*
65	Geography	(6) Understands that culture and experience influence people's perceptions of places and regions	4.06	14*
66	World History	(26) Understands how the transoceanic interlinking of all major regions of the world between 1450 and 1600 led to global transformations	3.82	16
67	Geography	(12) Understands the patterns of human settlement and their causes	3.75	12*
68	Geography	(2) Knows the location of places, geographic features, and patterns of the environment	3.70	13*
69	Language Arts	(3) Uses grammatical and mechanical conventions in written compositions	3.69	15
70	Civics	(22) Understands how the world is organized politically into nation-states, how nation-states interact with one another, and issues surrounding U.S. foreign policy	3.60	14*
71	Geography	(18) Understands global development and environmental issues	3.57	13*
72	Geography	(3) Understands the characteristics and uses of spatial organization of Earth's surface	3.52	12*
73	Foreign Language	(5) Recognizes that different languages use different patterns to communicate and applies this knowledge to the native language	3.50	15
74	World History	(30) Understands transformations in Asian societies in the era of European expansion	3.49	14
75	Economics	(8) Understands basic concepts of United States fiscal policy and monetary policy	3.34	13

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Subject Area	Standard	Percent	N
76. U.S. History	(1) Understands the characteristics of societies in the Americas, Western Europe, and Western Africa that increasingly interacted after 1450	3.31	13
77. U.S. History	(11) Understands the extension, restriction, and reorganization of political democracy after 1800	3.25	13*
78. Behavioral Studies	(2) Understands various meanings of social group, general implications of group membership, and different ways that groups function	3.23	12*
79. World History	(31) Understands major global trends from 1450 to 1770	3.14	13
80. Behavioral Studies	(4) Understands conflict, cooperation, and interdependence among individuals, groups, and institutions	3.12	12*
81. Working with Others	(1) Contributes to the overall effort of a group	3.10	12
82. Geography	(11) Understands the patterns and networks of economic interdependence on Earth's surface	3.02	10*
83. Civics	(14) Understands issues concerning the disparities between ideals and reality in American political and social life	2.98	12
84. Economics	(9) Understands how Gross Domestic Product and inflation and deflation provide indications of the state of the economy	2.94	12*
85. Foreign Language	(4) Demonstrates knowledge and understanding of traditional ideas and perspectives, institutions, professions, literary and artistic expressions, and other components of target culture	2.94	12*
86. Physical Education	(3) Understands the benefits and costs associated with participation in physical activity	2.93	12*
87. Language Arts	(5) Demonstrates competence in the general skills and strategies of the reading process	2.93	10*
88. U.S. History	(4) Understands how political, religious, and social institutions emerged in the North American colonies	2.90	12
89. Economics	(10) Understands basic concepts about international economics	2.87	11
90. Behavioral Studies	(3) Understands that interactions among learning, inheritance, and physical development affect human behavior	2.84	11*
91. Thinking and Reasoning	(6) Applies decision-making techniques	2.73	11
92. Economics	(4) Understands basic features of market structures and exchanges	2.67	11*
93. Language Arts	(6) Demonstrates competence in general skills and strategies for reading a variety of literary texts	2.66	10*
94. Science	(13) Knows the kinds of forces that exist between objects and within atoms	2.65	10
95. U.S. History	(7) Understands the impact of the American Revolution on politics, economy, and society	2.65	11
96. Working with Others	(4) Displays effective interpersonal communication skills	2.62	10
97. Geography	(5) Understands the concept of regions	2.60	8*
98. Economics	(1) Understands that scarcity of productive resources requires choices that generate opportunity costs	2.56	10*
99. Thinking and Reasoning	(3) Effectively uses mental processes that are based on identifying similarities and differences (compares, contrasts, classifies)	2.53	10

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Subject Area	Standard	Percent	N
100. Economics	(21) Understands characteristics of different economic systems, economic institutions, and economic incentives	2.52	10*
101. Language Arts	(8) Demonstrates competence in speaking and listening as tools for learning	2.48	10*
102. U.S. History	(8) Understands the institutions and practices of government created during the revolution and how these elements were revised between 1787 and 1815 to create the foundation of the American political system based on the U.S. Constitution and the Bill of Rights	2.46	10
103. Physical Education	(2) Uses movement concepts and principles in the development of motor skills	2.46	10*
104. Civics	(16) Understands the major responsibilities of the national government for domestic and foreign policy, and understands how government is financed through taxation	2.41	10
105. Civics	(15) Understands how the United States Constitution grants and distributes power and responsibilities to national and state government and how it seeks to prevent the abuse of power	2.36	10*
106. Civics	(7) Understands alternative forms of representation and how they serve the purposes of constitutional government	2.36	9
107. U.S. History	(19) Understands federal Indian policy and United States foreign policy after the Civil War	2.36	9*
108. World History	(34) Understands how Eurasian societies were transformed in an era of global trade and the emergence of European power from 1 50 to 1870	2.36	9
109. Self-Regulation	(3) Considers risks	2.31	9
110. Thinking and Reasoning	(1) Understands and applies the basic principles of presenting an argument	2.31	9
111. Civics	(17) Understands issues concerning the relationship between state and local governments and the national government and issues pertaining to representation at all three levels of government	2.30	9
112. Geography	(10) Understands the nature and complexity of Earth's cultural mosaics	2.30	8*
113. Civics	(23) Understands the impact of significant political and nonpolitical developments on the United States and other nations	2.28	9
114. Geography	(17) Understands how geography is used to interpret the past	2.26	8
115. World History	(38) Understands reform, revolution, and social change in the world economy in the early century	2.25	9
116. Mathematics	(7) Understands and applies basic and advanced concepts of probability	2.25	9
117. U.S. History	(5) Understands how the values and institutions of European economic life took root in the colonies and how slavery reshaped European and African life in the Americas	2.14	9
118. U.S. History	(21) Understands the changing role of the United States in world affairs through World War I	2.11	9
119. Life Work	(3) Manages money effectively	2.06	8
120. Historical Understanding	(1) Understands and knows how to analyze chronological relationships and patterns	2.06	7*
121. Self-Regulation	(6) Restrains impulsivity	2.02	8
122. Technology	(5) Understands the nature and operation of systems	2.02	8

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Subject Area	Standard	Percent	N
123 Thinking and Reasoning	(2) Understands and applies basic principles of logic and reasoning	2.00	8
124 Geography	(9) Understands the nature, distribution, and migration of human populations on Earth's surface	1.99	7*
125 Economics	(3) Understands the concept of prices and the interaction of supply and demand in a market economy	1.98	8
126 Civics	(25) Understands issues regarding personal, political, and economic rights	1.97	8
127 Civics	(26) Understands issues regarding the proper scope and limits of rights and the relationships among personal, political, and economic rights	1.97	8
128 Civics	(11) Understands the role of diversity in American life and the importance of shared values, political beliefs, and civic beliefs in an increasingly diverse American society	1.96	8
129 World History	(37) Understands major global trends from 1750 to 1914	1.96	8
130 Life Work	(6) Makes effective use of basic life skills	1.94	8
131 Life Work	(5) Makes general preparation for entering the work force	1.91	8
132 U.S. History	(20) Understands how Progressives and others addressed problems of industrial capitalism, urbanization, and political corruption	1.87	8*
133 U.S. History	(29) Understands the struggle for racial and gender equality and for the extension of civil liberties	1.87	7
134 World History	(32) Understands the causes and consequences of political revolutions in the late 18th and early 19th centuries	1.87	8
135 U.S. History	(2) Understands cultural and ecological interactions among previously unconnected people resulting from early European exploration and colonization	1.87	7
136 Life Work	(4) Pursues specific jobs	1.85	1
137 World History	(46) Understands long-term changes and recurring patterns in world history	1.80	8*
138 U.S. History	(14) Understands the course and character of the Civil War and its effects on the American people	1.80	7*
139 Mathematics	(8) Understands and applies basic and advanced properties of functions and algebra	1.79	7*
140 Life Work	(2) Uses various information sources, including those of a technical nature, to accomplish specific tasks	1.77	7
141 Civics	(8) Understands the central ideas of American constitutional government and how this form of government has shaped the character of American society	1.76	7
142 Civics	(3) Understands the sources, purposes, and functions of law and the importance of the rule of law for the protection of individual rights and the common good	1.76	7
143 Science	(4) Knows about the diversity and unity that characterize life	1.75	7
144 Thinking and Reasoning	(5) Applies basic trouble-shooting and problem-solving techniques	1.72	7
145 Language Arts	(7) Demonstrates competence in the general skills and strategies for reading a variety of informational texts	1.69	7*
146 World History	(29) Understands the economic, political, and cultural interrelations among peoples of Africa, Europe, and the Americas between 1500 and 1750	1.69	7

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Subject Area	Standard	Percent	N
147. Civics	(28) Understands how participation in civic and political life can help citizens attain individual and public goals	1.68	7
148. Civics	(29) Understands the importance of political leadership, public service, and a knowledgeable citizenry in American constitutional democracy	1.68	7
149. U.S. History	(23) Understands the causes of the Great Depression and how it affected American society	1.66	7
150. U.S. History	(9) Understands the United States territorial expansion between 1801 and 1861, and how it affected relations with external powers and Native Americans	1.65	7*
151. Working with Others	(5) Demonstrates leadership skills	1.66	7
152. Civics	(18) Understands the role and importance of law in the American constitutional system and issues regarding the judicial protection of individual rights	1.64	7*
153. Geography	(4) Understands the physical and human characteristics of place	1.62	5*
154. Geography	(15) Understands how physical systems affect human systems	1.60	6*
155. Geography	(7) Knows the physical processes that shape patterns on Earth's surface	1.59	6*
156. Geography	(16) Understands the changes that occur in the meaning, use, distribution, and importance of resources	1.59	6*
157. U.S. History	(30) Understands developments in foreign and domestic policies between the Nixon and Clinton presidencies	1.58	6
158. Working with Others	(3) Works well with diverse individuals and in diverse situations	1.57	6
159. Civics	(12) Understands the relationships among liberalism, republicanism, and American constitutional democracy	1.57	6
160. Life Work	(1) Makes effective use of basic tools	1.56	6
161. World History	(45) Understands major global trends since Word War II	1.55	7*
162. U.S. History	(15) Understands how various reconstruction plans succeeded or failed	1.55	6
163. Science	(10) Understands basic concepts about the structure and properties of matter	1.53	6
164. Physical Education	(4) Understands how to monitor and maintain a health-enhancing level of physical fitness	1.53	6*
165. Civics	(4) Understands the concept of a constitution, the various purposes that constitutions serve, and the conditions that contribute to the establishment and maintenance of constitutional government	1.49	6
166. Language Arts	(2) Demonstrates competence in the stylistic and rhetorical aspects of writing	1.49	6
167. Civics	(24) Understands the meaning of citizenship in the United States, and knows the requirements for citizenship and naturalization	1.48	6
168. U.S. History	(24) Understands how the New Deal addressed the Great Depression, transformed American federalism, and initiated the welfare state	1.47	6
169. Economics	(7) Understands savings, investment, and interest rates	1.47	6
170. Civics	(10) Understands the roles of voluntarism and organized groups in American social and political life	1.46	1
171. U.S. History	(3) Understands why the Americas attracted Europeans, why they brought enslaved Africans to their colonies, and how Europeans struggled for control of North America and the Caribbean	1.45	6

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Subject Area	Standard	Percent	N
172. Science	(15) Understands the nature of scientific inquiry	1.43	5
173. Civics	(21) Understands the formation and implementation of public policy	1.38	5
174. U.S. History	(6) Understands the causes of the American Revolution, the ideas and interests involved in shaping the revolutionary movement, and reasons for the American victory	1.38	0
175. Working with Others	(2) Uses conflict-resolution techniques	1.38	5
176. U.S. History	(25) Understands the causes and course of World War II, the character of the war at home and abroad, and its reshaping of the U.S. role in world affairs	1.35	5
177. U.S. History	(26) Understands the economic boom and social transformation of post-World War II United States	1.31	5
178. Science	(12) Understands motion and the principles that explain it	1.31	5
179. U.S. History	(10) Understands how the industrial revolution, increasing immigration, the rapid expansion of slavery, and the westward movement changed American lives and led to regional tensions	1.30	5
180. World History	(33) Understands the causes and consequences of the agricultural and industrial revolutions from 1700 to 1850	1.30	5
181. Civics	(2) Understands the essential characteristics of limited and unlimited governments	1.29	5
182.Mathematics	(6) Understands and applies basic and advanced concepts of statistics and data analysis	1.29	6*
183. Life Work	(8) Operates effectively within organizations	1.27	5
184. Life Work	(7) Displays reliability and a basic work ethic	1.27	5
185. Civics	(1) Understands ideas about civic life, politics, and government	1.26	1
186. Economics	(5) Understands unemployment, income, and income distribution in a market economy	1.25	5*
187. World History	(36) Understands patterns of global change in the era of Western military and economic domination from 1850 to 1914	1.23	5
188. Self-Regulation	(2) Performs self-appraisal	1.23	5
189. Science	(2) Understands basic Earth processes	1.18	5*
190. Civics	(9) Understands the importance of Americans sharing and supporting certain values, beliefs, and principles of American constitutional democracy	1.15	5
191. Science	(14) Understands the nature of scientific knowledge	1.14	4
192. Technology	(4) Understands the nature of technological design	1.13	7
193. World History	(44) Understands the search for community, stability, and peace in an interdependent world	1.13	5
194. Language Arts	(4) Gathers and uses information for research purposes	1.11	4
195. Mathematics	(5) Understands and applies basic and advanced properties of the concepts of geometry	1.09	4
196. U.S. History	(13) Understands the causes of the Civil War	1.07	4
197. Self-Regulation	(1) Sets and manages goals	1.06	4
198. Self-Regulation	(5) Maintains a healthy self-concept	1.05	4

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Subject Area	Standard	Percent	N
199. U.S. History	(27) Understands how the Cold War and conflicts in Korea and Vietnam influenced domestic and international politics	1.00	4
200. Historical Understanding	(2) Understands the historical perspective	0.98	3*
201. U.S. History	(12) Understands the sources and character of cultural, religious, and social reform movements in the antebellum period	0.96	4*
202. Science	(8) Understands the cycling of matter and flow of energy through the living environment	0.96	-
203. Self-Regulation	(4) Demonstrates perseverance	0.95	4
204. Economics	(6) Understands the roles government plays in the United States economy	0.94	4*
205. Language Arts	(1) Demonstrates competence in the general skills and strategies of the writing process	0.94	4*
206. Science	(16) Understands the scientific enterprise	0.91	4
207. U.S. History	(17) Understands massive immigration after 1870 and how new social patterns, conflicts, and ideas of national unity developed amid growing cultural diversity	0.87	3
208. World History	(39) Understands the causes and global consequences of World War I	0.85	4
209. World History	(42) Understands major global trends from 1900 to the end of World War II	0.85	4
210. Health	(3) Understands the relationship of family health to individual health	0.83	4
211. Mathematics	(9) Understands the general nature and uses of mathematics	0.83	4
212. Civics	(5) Understands the major characteristics of systems of shared powers and of parliamentary systems	0.83	3
213. Civics	(19) Understands what is meant by "the public agenda," how it is set, and how it is influenced by public opinion and the media	0.83	3
214. Physical Education	(5) Understands the social and personal responsibility associated with participation in physical activity	0.79	3
215. U.S. History	(31) Understands economic, social, and cultural developments in the contemporary United States	0.77	3
216. World History	(43) Understands how post-World War II reconstruction occurred, new international power relations took shape, and colonial empires broke up	0.77	4*
217. U.S. History	(18) Understands the rise of the American labor movement and how political issues reflected social and economic changes	0.74	3
218. U.S. History	(28) Understands domestic policies in the post-World War II period	0.73	1
219. U.S. History	(22) Understands how the United States changed between the post-World War I years and the eve of the Great Depression	0.72	37
220. Mathematics	(2) Understands and applies basic and advanced properties of the concepts of numbers	0.72	3
221. Health	(10) Understands the fundamental concepts of growth and development	0.69	3*
222. Geography	(8) Understands the characteristics of ecosystems on Earth's surface	0.69	2*
223. U.S. History	(16) Understands how the rise of corporations, heavy industry, and mechanized farming transformed American society	0.62	2
224. World History	(35) Understands patterns of nationalism, state-building, and social reform in Europe and the Americas from 1830 to 1914	0.61	3

Note: The number in parentheses is the number of the standard in the McREL database
The * indicates that the item was a composite of two or more questions with differing numbers of respondents
The ** indicates a result greater than zero, however conventions in weighting and subsequent rounding mask this result

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Subject Area	Standard	Percent	N
225. Science	(6) Knows the general structure and functions of cells in organisms	0.55	2
226. Health	(7) Knows how to maintain and promote personal health	0.50	2
227. Technology	(3) Understands relationships among science, technology, society, and the individual	0.47	3
228. Behavioral Studies	(1) Understands that group and cultural influences contribute to human development, identity, and behavior	0.45	2*
229. Science	(7) Understands how species depend on one another and on the environment for survival	0.44	2
230. World History	(41) Understands the causes and global consequences of World War II	0.42	2
231. Health	(2) Knows environmental and external factors that affect individual and community health	0.36	2
232. Science	(3) Understands essential ideas about the composition and structure of the universe and the Earth's place in it	0.34	1
233. Health	(1) Knows the availability and effective use of health services, products, and information	0.33	1
234. World History	(40) Understands the search for peace and stability throughout the world in the 1920s and 1930s	0.33	1
235. Mathematics	(3) Uses basic and advanced procedures while performing the processes of computation	0.29	9
236. Technology	(2) Knows the characteristics and uses of computer software programs	0.28	4
237. Mathematics	(1) Uses a variety of strategies in the problem-solving process	0.26	1
238. Health	(8) Knows essential concepts about the prevention and control of disease	0.19	1
239. Science	(1) Understands basic features of the Earth	0.17	1
240. Health	(6) Understands essential concepts about nutrition and diet	0.17	1
241. Technology	(1) Knows the characteristics and uses of computer hardware and operating systems	0.14	1
242. Science	(5) Understands the genetic basis for the transfer of biological characteristics from one generation to the next	0.13	1
243. Science	(11) Understands energy types, sources, and conversions, and their relationship to heat and temperature	0.13	1
244. Health	(5) Knows essential concepts and practices concerning injury prevention and safety	0.10	0**
245. Mathematics	(4) Understands and applies basic and advanced properties of the concepts of measurement	0.09	0**
246. Health	(4) Knows how to maintain mental and emotional health	0.08	0**
247. Geography	(1) Understands the characteristics and uses of maps, globes, and other geographic tools and technologies	0.00	0
248. Health	(9) Understands aspects of substance use and abuse	0.00	0

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